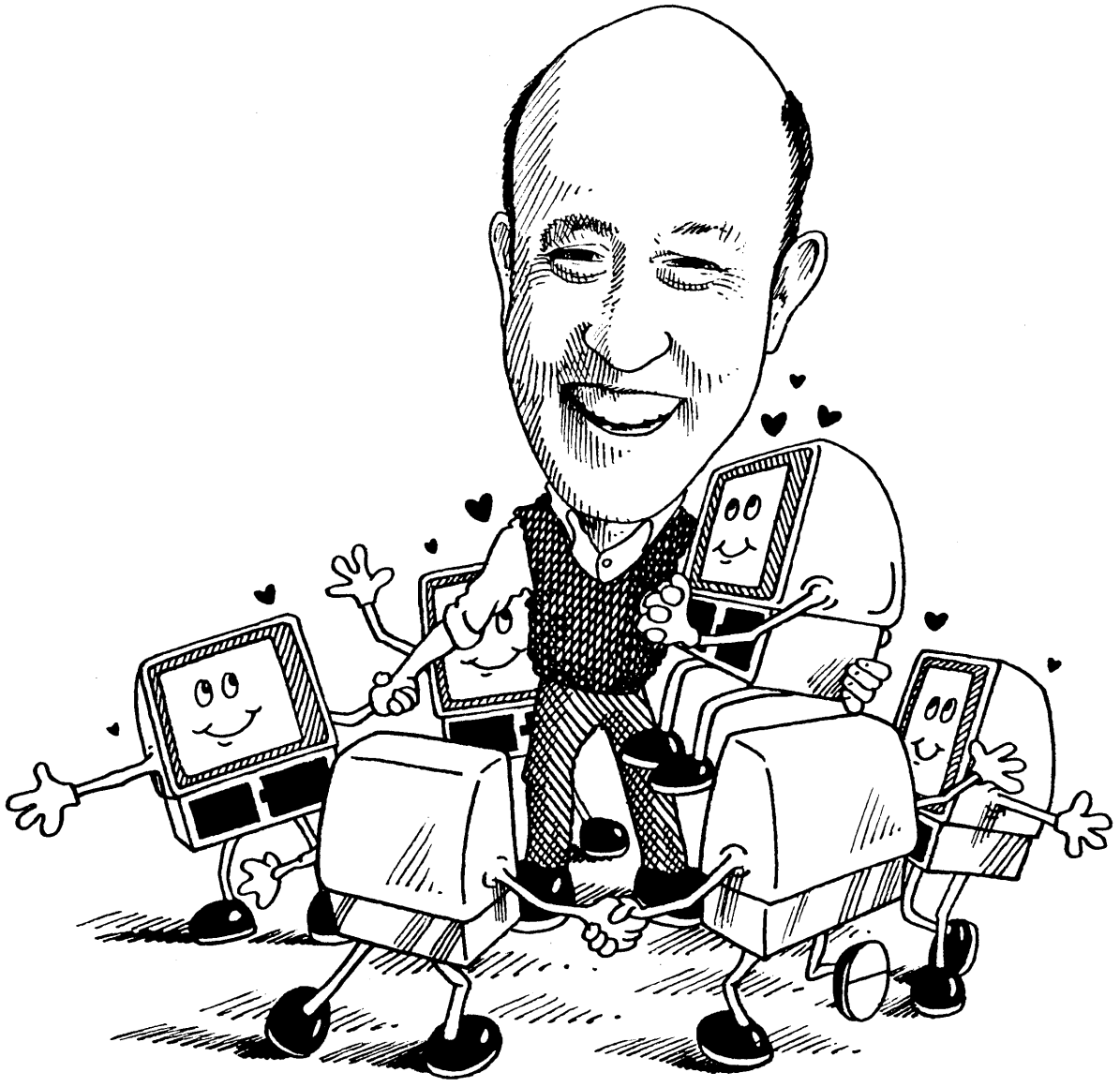
Morrow Owners' Review

Volume 1, Number 3, August 1984



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Morrow Owners' Review

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DEADLINE FOR ALL SUBMITTED MATERIAL, including articles, classified ads, display ads: Friday, September 7, 1984, noon, at the above address.

WRITTEN CONTRIBUTIONS of more than 30 words should be submitted on a 5 1/4 " Morrow format floppy in a WordStar file; right margin at 50 (^OR = 50); right justification OFF (^OJ); two spaces after the period (end of sentence); one blank line between paragraphs; three spaces indentation at the beginning of each paragraph. Thank you! Always include printed hardcopy of your prose. If you enclose postage, your floppy will be returned within a month. No modem transfers. Instead use MCI Mail (preferred over floppies) addressed to: MREVIEW (MCI Mail ID 217-1566).

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SPECIAL CREDITS

Front cover cartoon	-	Robert Johnson
Cartoons page 8 and 12	-	Robert Johnson
TRICEP photo page 13	-	Herrington and Olson
Computer graphics pp. 19, 47	-	Mike Rinaldi
Last-minute editor	-	Carolyn Shaffer
Prime Morrow supporter	-	Ed Niehaus

EDITORIAL

Right from the start of this publication our major goals were to reach as many of you Morrow computer users as possible and to enhance and stimulate the flow of communication among us. It seems we are meeting with some success already, even though we are only reaching a number of people equal to about half of the machines out there.

We hear from a lot of readers and, again, we are printing a fair sampling of your comments in the "Letters to the Editor" section. Advertisers keep coming back for more. Several people from Morrow are delighted with every issue so far. Two of them, Ed Niehaus and Dave Block, are contributing columns to our publication to make up for the individual contact by letter or by phone they would much prefer but are unable to handle.

Another good sign is that we receive a growing number of written contributions. The flow of new articles is not only growing larger, it also becomes more continuous. We also receive an increasing number of proposals for articles.

Some readers love the technical articles that help them out of some quagmire, so as long as, in using these aricles, they only have to follow the "simple steps" and need not understand what they are doing. A growing group calls for more such articles geared to beginners or non-technical users. Most of these readers are surprisingly tolerant of the articles they don't understand. They tell us that at least these articles sound more relevant than those in BYTE and that some day they might comprehend them yet.

It is not easy to get those clearly written, educational articles for non-technical users. Some writers are extremely-well-versed in what they are writing about but not so aware of how the non-technical users think. Writers who describe themselves as "hackers" are the worst bet, we found. Most of them want to push the limits of the art of computing and have little patience with people who only want to use the machine. People who contribute articles primarily because they like to write appear better suited to the task of writing for the non-technical user. May we hear from you in larger and larger numbers. We, as a community, need you.

Our community of readers.

Our reader community seems to consist of at least four distinct groups: the users, the people from Morrow, the dealers and the "third party vendors" or advertisers. The one group we have hardly heard from at all are the dealers. Some

have been helpful in sending us lists of people to mail copies to, but that was it. Perhaps a few have written and we just did not notice they were dealers, but certainly none have writen from a dealer's point of view. And here we were thinking to start a column to help express this point of view. We wonder, what could be the reason?

A group we suddenly hear a lot from is the advertisers. The response to their ads must be good across the board because, without much extra work, the number of ads keeps growing by leaps and bounds. Some advertisers want to submit articles along with their ads. We thought about this,and told them that if the articles had solid and useful information in them and would not read like sales brochures, we would give it a try. In this issue you will see two such articles. One by Micro Support and the other by Quest. Judge for yourself, and let us know what you think.

Complaints about advertisers.

Talking about advertisers: We got our first big complaint about an advertiser with a request that we publish the letter of complaint. We thought about that one very carefully. This is what we came up with. It looks like many conflicts between users and advertisers are based on misunderstandings and miscommunications. It would be highly irresponsible of us to multiply one person's angry view 20,000 fold without first carefully checking it out for accuracy.

But why should we be the judge in those conflicts? If many readers complained about a particular advertiser, we might take action. We could refuse to accept the ad in question, or we could publish a review to lend some perspective to the situation. But rather than repeating a lonely complaint, we are more likely to pass the letter on to the advertisers in question so they can at least be aware of a potential problem. Our position is that the users and advertisers should really work problems out among themselves. But our first priority is to our readers, so if we develop grave doubts about the integrity of an advertiser or his product, we will not hesitate to act in a way most beneficial to you.

TRICEP and DECISION-1 users.

We just became aware of a small group among our readers who are users of DECISION-1 and S-100 equipment built by Morrow. We received a few letters asking in essence: "Can we join too"? Our answer is: BY ALL MEANS, AND WELCOME! How come we have not heard from you before? We are thinking of a column especially geared to users like you, especially now that the new TRICEP system is coming out. See THE COMFILE, by Ed Niehaus, and the photo on page 13 in this issue.

Soon we will have PIVOT owners in our midst. They will use MS-DOS as an operating system in their 16-bit machines, and can have up to 512 kilo bytes of memory to their disposal. Next issue you will see articles and information geared to this new group of Morrow computer users.

Duplication of articles.

This issue contains original articles only, no reprints of articles from local Morrow user group newsletters. We could pull this off because we had an abundance of submitted material. Some members of local groups expressed unhappiness about article duplication. We can see their point. However, we decided we might still occasionally reprint articles from local newsletters in future issues if we consider them valuable. The reason is simple: An article published in a local newsletter is read by less than 3% of our readers. Why deprive the other 97%?

In the meantime we are accumulating a fast growing pool of articles that did not make it into the MORROW OWNERS' REVIEW for one reason or another, but have merit nontheless. When we have several floppies- worth of these, we are considering making them available to the readership at some nominal cost. You will never know what you have before you buy it, not unlike public domain software. But if you are interested let us know.

Re-design of the REVIEW.

The development of the design of the M.O.R. has our constant attention. Several people have already been quite helpful with long-distance advice on how we could improve our M.O.R. by making it more attractive and easier to read. The problem has been to coordinate and synthethize the quite divergent ideas. We decided to spend some of our hard-earned advertising money on obtaining some part-time help from a design artist. You may see some changes in this issue and the next one may look quite different. If you have a specific idea for design and layout improvement, now is the time to write us about it.

True independence for the REVIEW?

Lastly, I want to touch on the issue of the independence of M.O.R. Currently the situation is as follows: We, the editorial group that puts M.O.R. together, are Morrow equipment users. We are not Morrow employees, as a few readers still assume.

We have an agreement with Morrow whereby we have full editorial independence while cooperating with Morrow in a way that is generally supportive of them and takes advantage of their technical

expertise. In turn Morrow supports M.O.R. by paying the printing and mailing bills. We pay our operating expenses from the advertising revenues that we collect. Unless we take a totally different approach with M.O.R., it is unlikely that we could support all expenses, including printing and mailing, from advertising revenues alone.

The question is whether we should aim for complete financial independence (paying all the bills ourselves) and charge subscriptions, or proceed the way we are operating now, with Morrow paying the big bills. Now we are reaching around 14,000 readers immediately after publication through the bulk mailing. By including a copy of M.O.R with every new machine shipped from Morrow, we reach roughly another 4,000 in the two months between issues. An additional 2,000 copies are slowly sold as backissues.

Some experts tell us that if we switched to subscriptions our readership may drop to a third of what it is now--that is, unless we would do a big promotion and mount an agressive sales campaign through dealers and newsstands, all of which would require ample capital. According to these experts, if we were to gain complete independence from Morrow by stopping the free distribution, we would have to let go of our of our desire to reach every possible Morrow user. I invite you to give that some thought and send us your comments--preferrably by MCI or a floppy, but an old-fashioned letter is fine too.

This bi-monthly is a grass-roots publication, a communication tool forged by users for users and related parties. It is only just taking off and, after even so few issues, we must admit, it seems surprisingly successful. What do you think?

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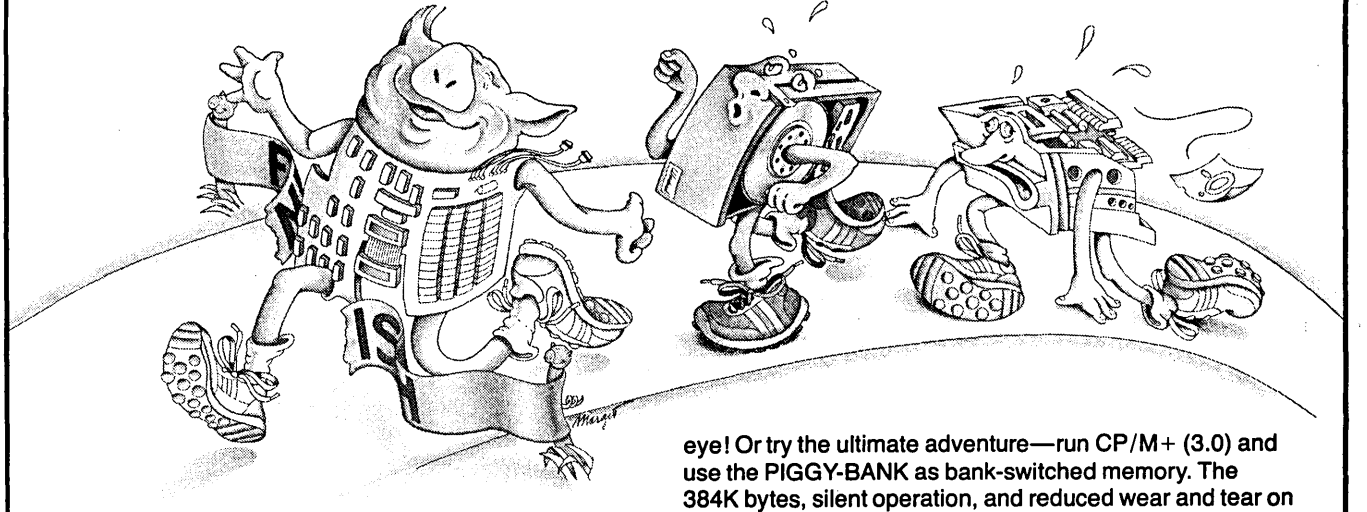

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E-SYSTEMS, BERKELEY 2308 FOURTH STREET, BERKELEY, CA. 94710 (415) 486-0686

LETTERS TO THE EDITOR

MORE THAN ONE MICRO DECISION

Dear Editor:

I thought I was the only one in this part of our great country who owned a Morrow and had just about given up trying to find someone who owned one besides me (let alone a USERS GROUP!). So you could have bowled me over with a floppie when I came home yesterday and found the Morrow Owners' Review sitting in my mailbox.

"WOW! LOOK WHAT I GOT!!!" I cried to my dear wife. "YOU SEE... YOU SEE... WHAT DID I TELL YOU??? YOU WERE WRONG, WRONG, WRONG, WRONG! THEY DID MAKE MORE THAN ONE MORROW MICRO DESIGN!!!"

I don't know why I never got Issue Number 1, nor do I know what the hell BAMDUA means (although I wish I had one) but I did read my M.O.R. from cover to cover, even the parts I couldn't comprehend (like how to quiet my disk drives), but I was content, merely to know that there is a world out there, even if it is on the other side of the country, that knows what a Morrow is, besides me and the dealer.

I am DELIGHTED and I want to thank you for my first issue.

Dick Haesche, Connecticut

NOT AVAILABLE ANYWHERE ELSE

Dear Editor:

I really appreciate a periodical that deals with my computer. Since there is an overabundance of computer magazines that cover every conceivable topic of general interest, I hope you will focus on topics that deal with the Morrow, the Micro Decision's version of CP/M, new products that we can use, etc.

Such a periodical should appeal to Morrow owners by providing information not available anywhere else.

John W. Kroger, Skokie, IL.

NOT ALL THAT BAD

Dear Editor:

The picture on the front of Vol.1 of the Owners' Review pretty well sums it up. If you look on the map, you will see that Clifton, Colo. is quite a ways from anywhere. At times I know just how the Maytag repairman feels.

I bought a Morrow system knowing that I would have little or no dealer support and that any problems would have to be worked out over the phone or by trial and error. Actually, things haven't been all that bad - just the expected (and exasperating) glitches that always spring up, but it does get lonely out here.

When I mention I have a computer the stock comment is: "what kind, Apple?", and that is the main orientation of the user groups, such as they are.

I do appreciate the effort of your group and of Morrow Designs, Inc.in trying to establish communications with other users. It would appear that the users group has taken over the function of the Morrow newsletter. I have some problems with the compatibility of the Freedom 100 terminal and when I have more time, I will try to resolve them thru' the Q/A column.

Best wishes and good luck.

William P. Haworth, Colorado

DUPLICATION OF EFFORT

Dear Editor:

Just received 2 copies of MOR & am looking forward to reading it. So I've made it thru' the letters & wanted to drop a line - I love it but I agree with Morley Farquor of S.F. It seems like a lot of duplication of effort for BAMDUA - MUGU - CMDUG, etc. His idea was to use MOR as the main newsletter & let everyone plug in their own local stuff.

MOR could do bulk mail to each user group. Too much trouble? Seems like not so much as 2 letters & all the duplication.

Audrey Gray, San Jose, Ca.

DON'T CUDDLE UP TOO CLOSE

Dear Editor:

I have just gone through the second issue of the Morrow Owners' Review, and I feel compelled to make a few observations and comments on the magazine's editorial direction, and this issue's articles.

To begin with, if you intend to be effective over a long-term basis, you should try not to cuddle up so closely to George Morrow and the company in general. Assuming I am fairly representative of Morrow owners, I have an intense

interest in the operation and use of his machine, but a very mild one in the man himself, regardless of how cute and witty he may be. I'd rather see useful material than several pages of hosannahs to Morrow and his merry men in every issue.

Perhaps this attitude is fostered to some degree by his director of marketing communications. I believe this is the most remarkable statement I have seen from a man in such a position. Basically, he tells us to go away and not bother him and his employees. If we have problems with his equipment, that's tough luck. Find a users group - even if the nearest one is 1,500 miles away. I have a fairly close relationship with a Morrow dealer in Atlanta, and as far as I can tell the company takes much the same attitude toward its dealers, despite what Niehaus says. I have to seriously question how long any company can remain in business with such an attitude.

Jack Warner, Atlanta, Ga.

REASSURING

Dear Editor:

You're off to a good start with your new magazine. As an MD2 owner (for 6 months), I find it full of useful tips. And George Morrow's comments about 8-bit machines were reassuring: IBM and its addicts cause a lot of uncertainty among CP/M people, and the point is worth keeping in mind when you think about editorial policy.

Best wishes to you,

Wendell Cochran, Arlington, Va.

LONELY OWNING A MORROW

Dear Editor:

Hell yes, darn tooten and damned right I'm interested in getting into a users group. I can't tell you how lonely it's been owning a Morrow. Nobody has heard of them. All my friends laugh at me.

It's like being Catholic in Salt lake City. People will give you a moment during a lull but you're still from the wrong side of the tracks. The Maytag repairman is a social boomer compared to me.

A few people have thought I made the name up, that I hadn't bought a computer at all. They said that I just pulled the name out of a hat so I could feel like one of the guys.

And I thought, "Hey, maybe they are right".

I hotfooted it back to the place where I bought it and defied them to show me anywhere on the whole setup where it said "20" or "200" even. I would have settled for a "2" or even a crayoned-on "II" but no. All I can show is a water tower at sunset.

Then comes your glorious newsletter - I am ecstatic, enthused and several other words that are probably not on my Correct-It.

Richard M. Curwin, Arizona

SISTERS TO BROTHERS, OVER!

Dear Editor:

There's nothing that gets this feminist's goat more than a bunch of mule-headed men sitting around thinking they own the world and the computers in it. Take it from one woman who's found happiness with her Morrow: the "brotherhood" does not exist. It is thoroughly integrated with women who use -- and like -- their computers. So let's not see any more letters to the editor entitled "pass it on to the Brotherhood," nor any more letters giving advice to the "brotherhood"- what an incredibly chauvinistic assumption...

Patricia Broughton, Chicago

EMPLOYER RESISTANCE TO WORD PROCESSING

Dear Editor:

I bought the Morrow on combined advice of Peter McWilliams and a dealer. As it was a big expenditure for me, I got the best system for my needs and do not plan to upgrade until my system is totally obsolete. I don't expect this to be the case for many years.

My biggest problem is employer resistance to word processing! Men seem afraid to get a word processor for their secretaries. They say it's the cost but this is nonsence - really it's fear of their help knowing more than they do. Any suggestions on overcoming this would be welcomed. I have my own at home but would like one at work, desperately!

Molly Mckinney, Arizona

MORE FOR THE NEOPHYTE COMPUTER USER

Dear Editor:

I purchased the Morrow MD3 for the purpose of writing a book, and as I have a September deadline from my publisher I sort of jumped right in; I did not do a lot of reading on computers but the NewWord program seems simple enough for my purposes. I just read the manual as I go along if I have any problems doing what I need to do with

the manuscript.

Because there may be a lot of other Morrow owners in my situation, may I suggest that some of the space in MOR be devoted to simple information for neophyte computer users like us. I have found that most of your columns are directed toward people who have advanced knowledge about computers.

Stacey Peck, Los Angeles, Ca.

GOT WORDSTAR INSTEAD

Dear Editor:

THANK YOU for my first issue of Morrow Owners' Review. What a pleasant surprise. I only wish I had purchased my Morrow in time to have received the first issue. I would have liked to have been included in the questionnaire.

Your publication is just what I needed. I have tried some of the magazines and have found them to be devoted almost exclusively to the IBM, Apple and Commodore.

My Morrow came packed with NewWord and I, too, had much trouble with it. Since my typing speed is quite fast, I was always losing words with word wrap. Also, I found things missing and other things duplicated while moving blocks. The most bothersome difference between NewWord and WordStar was the lack of ability to do anything else while printing. I returned NewWord to my dealer and got WordStar instead. I agree that NewWord did have a few improvements over WordStar, but they weren't worth it due to the other problems I encountered. Unfortunately, if all the bugs are worked out now, it's probably too late for me to obtain a copy of NewWord without great expense.

I would be willing to pay a subscription fee if that would help you to continue to put out such a fine publication. I am sending my name in also to get in touch with a users group in my area. I now feel that there really are other Morrow users out there! Thank you!

Chrestine A. Szczap, Wheaton, Illinois.

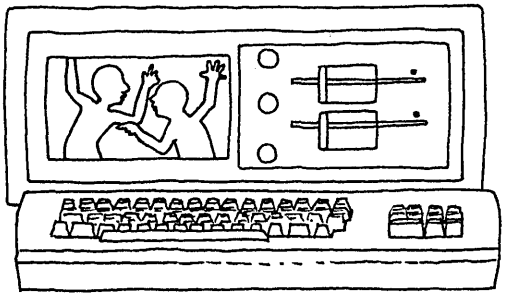
WONDERFUL WORDPATCH

Dear Editor:

Belatedly, I am writing concerning some information contained in the April 1984 issue. (Parenthetically, I am very pleased with the Review and look forward to its continuation.) The specific information that prompts this letter appeared in Mr. Block's column on Pages 17-18 with respect to patching WordStar.

I found a way out. An easy way out. I bought some software that for $50.00, patched my WordStar (version 3.0) in about 30 seconds, re-wrote the menu to show the proper codes for the most commonly used commands, and then printed out a number of pages of more detailed information and instructions, all easily understood. I found the supplier through the catalog of software available for the Morrow computer which Morrow advised owners about in an earlier mailing. The program is called WordPatch and is available through Rocky Mountain Software Systems, 1280-C Newell Avenue, Suite 147, Walnut Creek, Ca. 94596. I ordered by phone (415/680-8378). I think this information should be shared through the Review, as I am sure there are many owners who would rather pay the modest price of WordPatch. I think it's a great piece of software. It may not be as technically intriguing but then many of Morrow's owners are probably business and professional people like myself, and my wife, who want results with ease and little expenditure of their time.

Robert A. Dublin, Annandale, Va.



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THE COM FILE

[This is a column by Ed Niehaus, Director of Marketing Communications, Morrow. As his title suggests, he is very interested in developing and maintaining good communications with end-users and dealers. Especially in the Bay Area he is a well known Morrow personality with the Morrow user groups. He has done a lot to build fine relations with BAMDUA and the MORROW OWNERS' REVIEW. Editor]

Listening to the screen.

I never thought it would be easy to learn to use a computer. I've always thought that I was handicapped by my natural impatience, and by my unwillingness to read the documentation. Word processors I've found to be pretty straight forward, spreadsheets not too bad, but data base managers and other more complicated programs often left me confused. I guess I never realized how good I had it.

I heard a story about a fellow MD11 user, Mike Gunderson, who has his Morrow hard disk system hooked up to a (believe it or not) Commodore 64, which is then connected to a Votrax. If this sounds like a complex system for a first time user, it is, but Mike is a little different from most first time users. He's blind.

Mike got in touch with Steve Brust at R/D Computer Sales in Peru, Illinois. Mike needed a computer to do word processing, to evaluate investments, and to keep his business books. He asked Steve to make his computer talk to him.

Steve took this interesting problem as a challenge, and found a very workable solution. The MD11 offered all the software that Mike needed, and gave the advantage of not requiring Mike to shuffle diskettes on which he couldn't read the labels. However, the MD11 can't talk.

Steve's solution to this was to buy a Votrax which is a voice synthesizer that takes ASCII (alpha-numeric) information and converts into speech using a series of phonetic rules that it has been taught by its inventor. The Votrax enables it to talk; however, it did not enable it to repeat itself, to go back and reread lines or even whole screens. Steve added a Commodore computer to handle these functions. The Commodore's job is simply to make it easier for Mike to review what he has heard.

We computer users can imagine what it would be like to have everything on the screen read to us but not be able to look back at anything. This extra computer gave Mike the capabilities to look around on his screen, and reread anything he missed.

The whole thing seems to be working well. Mike is getting started and has mastered word processing. One of his next steps will be to get a modem so that he can use CompuServe or The Source and maybe talk to other people with similar experiences.

If you would like to get in touch with Mike, please leave a message with Steve Brust at R/D Computers, 815-223-0102.

What else is new.

What else is going on at Morrow? There was some bad news...we've had some layoffs; we had to let 19 people go at Morrow in June, because of our seasonal slow down for the summer. We hope that some of these people will be re-hired, especially when our new product, the PIVOT, achieves wide acceptance. Meanwhile, whenever layoffs happen in a computer company in this day and age, some people ask themselves, "Are they going to make it?"

Well, you will be pleased to know in Morrow's case the answer is definitely "YES." The layoffs are really a symptom of conservative management, not of impending doom. We have always been known in the industry for doing two things well -- engineering and management. We have to watch our resources carefully to be sure we have what it takes to successfully take our new products to market.

The IBM phenomenon has caused some market resistance to CP/M computers. Much of our effort therefore is focused on the computer that runs software that is in this IBM environment, the PIVOT. It's been clear to us from the press response we received that the PIVOT is going to be a big success. We are the only product in our size class (9 pounds) that includes both a built in battery, and one disk drive. If you want two disk drives your PIVOT weighs 13 pounds. This should be a dramatic new product for us.

Meanwhile, we have another new product that is clearly all alone in its segment of the market. Called TRICEP, this product was developed by our Multi-user System Group. TRICEP is specifically designed to run the most powerful operating system in the world...UNIX System V.

TRICEP is a "SuperMicro" that provides from four to eight users with an easily expandable system. Based on the same standard S-100 bus architecture that has been so successful in the Decision One, TRICEP offers direct memory access and provides a great deal of speed to UNIX users.

At the heart of the system is Motorola's 68000, the most popular of the new generation of 32-bit microprocessors. It offers increased number crunching performance and the ability to directly address enormous amounts of memory.

The name TRICEP refers to the three point DMA architecture that gives the system its power. The Direct Memory Access capability of the hard, floppy, and I/O controllers frees the main 68000 CPU to do central processing while the controllers take care of the peripheral requirements of the individual users. Each user can have a "slave" processor with an 80188 chip to run applications and do software development in the MS-DOS environment.

Those of you who are software developers will love this system. The growing popularity of UNIX, which runs on the TRICEP, is producing the same sort of software development explosion that fueled the take-off of 8- and 16-bit micros. Every software group that wants to play a part will need a powerful, fully featured system for their development work. TRICEP can be this system.

That's why I'm sticking around - - there's a lot happening at Morrow! I close again with a request for mail; can our communication be so good that no one has anything to ask me?

FOR MORROW OWNERS ONLY

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Newword is a WordStar compatible word processing program with a built-in merge print facility equivalent to MailMerge®

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Visit your Morrow dealer today and try Newword. You can't find a better buy for just $100.

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If you already have Newword, you know how powerful it is. Your upgrade includes all of the features described above. You will especially like the onscreen display of print attributes. To take advantage of the upgrade offer you must trade in your original Newword diskette.

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NEWSTAR

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Special Free Offer

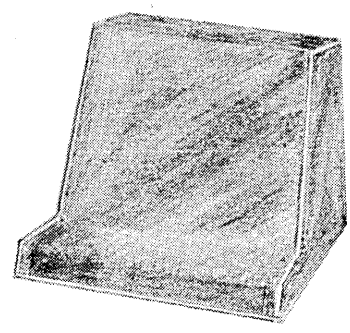
SmartKey II speeds up and improves accuracy in computing and is so good that it is now being bundled with Morrow computers. Smartkey II lets you easily reprogram as many upper and lower case keys on your keyboard as you want, even while WordStar, New Word, or any other software is in operation. In a dynamic review of SmartKey II, Stan Ahalt flatly states, "This is probably the most useful software I have ever seen." Peter McWilliams, William Buckley, and others are equally impressed.

Uses for this powerful, easy to operate program are endless. With SmartKey II you can assign up to 3,750 characters to a single key. Once you have redefined keys, you can put them to work or change them at will. You can also store your "smart key" definitions in a special file and use them later, or make numerous definition files to use with a variety of your favorite programs or projects. Imagine saving complex command codes, boilerplate paragraphs, sentences, proper nouns, inventory numbers, or whatever, and then injecting any of them into your work with the stroke of a single key. This is a must-have, time saving computer program for all MD owners.

SmartKey II has a little known super companion program called SmartPrint II. SmartPrint II retails at $49.95. SmartPrint lets you give single-stroke commands to make your dot matrix printer produce italics, greek characters, graphic symbols, boldface, underlining, extended typefaces, accent marks, and much more. SmartKey II retails at $89.95. Now, for a limited time only, Central's price for a combination SmartKey II and SmartPrint II pack is only $79. In addition, as a bonus, with your purchase you will receive a free copy of Paul Golding's book, *Screen Smarts, The Computer Tamer's Guide*. This book is a $15.95 value. It tells how Mr. Golding, a professional writer, uses SmartKey II to turn his humble computer into a supercharged dedicated word processor. Please don't delay, this offer may not be repeated. Order today to get SmartKey II, SmartPrint II, and a free copy of *Screen Smarts, The Computer Tamer's Guide*, fast.

Warning: SmartKey II will not work with MDT20 terminals. Order SmartKey II and SmartPrint II for MD2, MD3, and, now, MD11 computers. SmartKey comes with a complete step-by-step manual. Makes similar programs look dumb.

Introducing A Classic Form Fitting Morrow Cover



At last, the classic MD dust cover you'll be proud to own and use. This first rate computer cover is made from a premium, lint free, static free, washable, free breathing, and fade resistant sailcloth. It comes in a rich looking Navy blue or Sand. The Navy cover has a smart contrasting silver gray piping and trim that adds a superior finished look. Not to be outdone, the Sand cover is handsomely finished in a rich chocolate piping and trim.

Matching sailcloth covers for many different popular printers: $14.95.

This remarkable form-fitting dust cover makes you feel good and will keep your MD dust free and looking brand new for years to come. For a limited time only, your price for this factory direct, custom made, sailcloth Quality Cover is $18.95. When ordering remember to indicate color preference. This special low price is subject to change. You must be completely satisfied with your purchase of this cover or we will refund your money immediately. Order today.

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- Attractive colors
- Professional appeal

Richly tailored inside and out. Look inside any of our Quality Covers; see the ultimate finishing; we use machines that sew with 3 needles so that edges will not unravel or shed lint. We stress perfection because you deserve the best. Compare for long-lasting satisfaction.

FACTORY DIRECT

NEW

Morrow owners are talking about ...

The Compleat Morrow Micro Decision, A Guide to the MD 1, 2, 3, and 11 published by the Computer Book Group of the Reston Publishing Company is hot off the presses. This book is causing quite a stir among new and veteran Morrow owners. It's no wonder too. The author, Steven Frankel, is an independent consultant that has written an entire line of computer books, and as such is uniquely qualified to thoroughly explore and explain the architecture, capabilities, and uses of Morrow computers. This fully illustrated book takes you on a grand tour of the ins and outs of the operation of Morrow computers. Long time Morrow owners say how much they appreciate the informative treatment Steven Frankel has given their computer.

The Compleat Morrow Micro Decision is the first serious book on the Morrow computer line released by a major publishing house. The more than 220 fact-filled pages of this book are jam packed with accurate information and technical advice that make it an invaluable tool for Morrow owners. Hard facts explored here include reviews and advice on the selection of super productive software that will enhance the operation of your Morrow. If you want to learn more about your Morrow computer and how to get real computing power from it, put this book on your desk. It pulls no punches. Retail price of this book is $16.95. Our current price is $14.95. Please call or write today to order your copy of this informative book today. Satisfaction guaranteed or your money back. Order today.

The Morrow can dump a file faster than a printer can accept it. So, it's great to have a device that will catch the file, quiet the disk drives, and give the computer back to you.

CONSOLINK MICROSPOOLERS

Description	List	Price
64 K P-P	$359.00	$289.95
64 K P-S	$389.00	$294.00
64 K S-S	$390.00	$295.00
64 K S-P	$384.00	$292.00
Cables	$ 54.00	$ 29.00

64 K	Stores and spools files as large as 64 K.
P-P	Parallel MD port to parallel printer port.
P-S	Parallel MD port to serial printer port.
S-S	Serial MD port to serial printer port.
S-P	Serial MD port to parallel printer port.
Cables	Set includes one special male to female connector and one male to male connector. — Please tell us model and type of printer you're connecting to your computer.

Stop Tearing Up Your Disk Drives!

If you're using your Morrow as a printer buffer instead of a computer, you may be tearing up your disk drives. Disk drives are mechanical devices, they are often the first parts of a computer to go sour. No wonder. Everytime you feed your printer a file, the drives whirl madly until the printer has accepted the entire file. Sometimes this takes a long, long time.

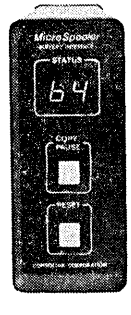


Photo: MicroSpooler 64 K model P-P

Includes these unique features:

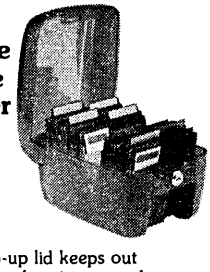
- Status digital readout
- Multiple copy function
- Temporary pause function
- Sleek internal power supply
- Comprehensive self test routine
- Slimline attractive casing
- Front panel reset
- 12 month factory guarantee

If you're tired of hearing your disk drives grind down, you need a printer buffer. The best performance and price buffer on the market is the Consolink MicroSpooler. This computer-like tool absorbs files as fast as your computer can send them, and then patiently feeds or spools them to your printer a few bytes at a time.

The MicroSpooler is an intelligent, feature-packed buffer. It is easy to install and operate. Merely place it between your computer and printer, then connect it with two cables, and feed files as large as 64K within seconds to your letter quality or dot matrix printer. The instant the transfer is complete, you can operate your computer again. The MicroSpooler does the rest.

The MicroSpooler comes in a variety of configurations. You can link your Morrow to any popular printer with two inexpensive cables. Please check our low MicroSpooler prices. You won't find a more feature-packed or reasonably priced spooler around. Try the MicroSpooler of your choice for 15 days. If you are not completely satisfied with your purchase, return it for an immediate full refund. Your Micro Decision deserves this attractive and useful accessory. Order a compact and powerful MicroSpooler today.

Lockable Diskette Defender



Handsome, sturdy, smoke-tinted acrylic tray holds 70 MD-size diskettes. Flip-up lid keeps out dust, debris, and moisture, and locks securely to guard your important work. Comes with 7 dividers with index tabs for easy filing and to keep floppies upright to prevent bending, warping, and scratching. Tough and secure metal lock never comes in contact with diskettes because it is enclosed in a special plastic housing. Super value at $23.95 for one, or $22.95 each if you buy 2 or more. Keep prying eyes and sticky fingers away from your data. Order today.

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SHOP-BY-MAIL
CENTRAL MORROW SOFTWARE

Product Description	List	Central
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CP/M	$ 75.00	$ 54.00
MBasic	$ 75.00	$ 54.00
Multiplan	$ 75.00	$ 54.00
SuperCalc	$ 75.00	$ 54.00
Wordstar	$ 75.00	$ 54.00
BORLAND INTERNA		
Turbo Pascal	$ 49.95	$ 47.95
DIGITAL MARKETING		
Bibliography *	$125.00	$ 99.00
Datebook II	$295.00	$228.00
Footnote *	$ 99.00	$ 79.00
Grammatik *	$ 75.00	$ 69.00
Hyper Typer	$ 29.95	$ 26.00
Milestone	$250.00	$199.00
Notebook	$150.00	$109.00
Random House Checker *	$ 50.00	$ 40.00
Writer's Pak includes all * programs	$295.00	$259.00
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General Ledger	$395.00	$299.00
FYI, INC.		
SuperFile	$195.00	$135.00
LEXISOFT		
SpellBinder	$495.00	$299.00
MICROSOFT		
MultiPlan	$195.00	$155.00
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Uniform MD2 Reads 26 machine formats	$ 69.95	$ 49.95
Uniform MD3 Reads 60 machine formats	$ 69.95	$ 49.95
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Mite	$150.00	$ 99.00
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Punctuation and Style makes writing and rewriting much easier. The list price of *Punctuation and Style* is $125. Central's price is $99. Experience the power of this valuable "Punctuation Checking and Writing Improvement Software" yourself. Order today to get this program fast.

Punctuation and Style works on files created with Wordstar, New Word and other word processors. Comes with an easy to use, clearly written manual and an attractive binder. Join thousands who now write with more confidence, faster, and better.

Pockets Full of Money?

Keeping track of money is almost as hard as getting it. *Checks & Balances* is ideal for the home or business that is run out of a checkbook. Helps you keep track of your money and develop a natural and workable budget. Shows you where your money goes.

Checks & Balances allows entries to be divided between multiple categories; handles multiple checkbooks; includes flexible searching capabilities that locate records by date, number, or category; has commands that are all in plain English; and even comes with extensive on-screen help files that make it a pleasure to operate. It also allows easy checkbook reconciliation, records monthly budgeting for up to 64 user-defined categories, and has a super fast sort. Accepts checks written in any sequence.

Check & Balances is written in PL/I-80 and Z-80 assembler. Since it is already compiled, it runs very fast and you don't need PL/I, Basic, or any other language to run it. The power, speed, and features of PL/I, a very high level language written for large computers by IBM, makes *Checks & Balances* a state of the art program that is both faster and easier to use than cumbersome second generation programs with less features.

The list price of *Checks & Balances* is $54.95. Central's price is $49.95. This fine software will save you years of frustration in the management of your money. Order today.

Attention: *Checks and Balances* has full screen editing capabilities. If you can write a check, you can use this program. That's how easy it is to use. Comes complete with common sense instructions and hints.

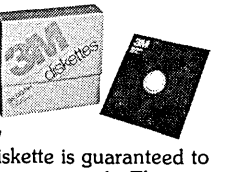
Top 70 Free Programs

The Free Software Handbook is chock full of documentation, reviews, and commentary on the use and abuse of the top 70 public domain programs. It might cost a dedicated hacker hundreds of hours and maybe thousands of dollars to track down this box full of goodies. ZCPR2, the super CP/M utility is here, along with Unerase, D.Com, Bio.Com, Wumpus.Com, Adventure.Com, RPIP, Food.Com, and dozens of other valuable free programs.

If you want to share in the free software bonanza but don't have the time to search through piles of useless software to find a few precious gems, this book is for you. The list price of *The Free Software Handbook* is $17.95. Central's price is $15.95. If you want both *The Free Software Handbook* and all the programs reviewed in the book, send $34.95 and indicate whether you have an MD2 or MD3 computer. Save yourself the time and effort of compiling these programs. Order the *Free Software Handbook* today.

The Free Software Handbook is published by PeopleTalk Associates. The authors looked at thousands of programs. They challenge readers to find better ones. It can't be done.

Lifetime Guarantee!



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DAVID'S Q & A COLUMN

[Dave Block is Micro Decision Product Manager at Morrow. He receives a daily heap of mail you wouldn't believe. A typical letter contains a cursory greeting followed by one to ten questions. He would like to answer them all, but that is clearly impossible. So he wrote the Preliminary Micro Decision Question and Answers book. If you are lucky you can get it for a dollar from BAMDUA. The real book will be out soon. In the meantime Dave agreed to write this column to deal with some of the questions that arrive in the MORROW OWNERS' REVIEW mail. If you have a modem you may also try the Morrow Bulletin Board System at (415) 632-1951. Who knows, you may get to "talk" to the SYSOP himself: Dave Block.]

Lately, there has been a surge in the number of people who are curious about our CP-88 board. I hope this will summarize the features, explain the configurations and pricing, and make a few of you curious enough to take a look at it.

The CP-88 is a 16 bit add-on board for MD3 and MD11 systems. The board contains an 8088 microprocessor (just like the IBM), and 128k, or 256k of RAM. The product comes with three pieces of software:

1 - MS-DOS Disk operating system and utilities
2 - RAM-DISK software
3 - SuperCalc 2 for MS-DOS

First off, let me make one thing perfectly clear.... the CP-88 will NOT run LOTUS 1-2-3, Flight Simulator, or any other program requiring graphics. It WILL run any MS-DOS application program that is not written for a specific machine. For more about what it will do, read on...

After installing the CP-88 in a Micro Decision, you may run a vast amount of MS-DOS applications software, including MultiPlan, SuperCalc 2, and DBase II, among others. But wait. You can run those right now. Let's see why you may want to run these under MS-DOS instead of CP/M.

All 8 bit processors are limited to 64K of memory. With special circuitry, you may add more memory, with the limitation that the processor will still "see" only 64K at a time. The MD1, MD2, and MD3 have no such circuitry, although the MD11 does. The extra memory in the MD11 is only accessible within the operating system. Since a program can use only 64K at a time, any program for CP/M must be written in one of two ways:

1) Limit itself to a total of 64K of memory for program and data.

or

2) Add steps to the program to move data to and from the floppy disk automatically as the 64K of memory is filled up.

The second approach, known as VIRTUAL MEMORY, is used by programs such as WordStar, NewWord and Correct-It. The first approach is what is used by most spreadsheets. The astute reader will now realize that spreadsheets are limited in the number of cells by the amount of memory that can be seen by the processor at one time. Therefore, if the processor can see more memory at once, it can use more cells.

The 8088 processor used on the CP-88 can address up to 16 times that of the Z-80. The CP-88 has been designed to take 128K, or 256K of memory, providing a great deal more memory storage for programs. Therefore, it becomes much more difficult to approach the limits when using spreadsheets under MS-DOS.

The most common way to approach the memory limits in a 64K CP/M system is with a spreadsheet. Because of this, Morrow is bundling a 16-bit version of SuperCalc 2 with the CP-88. If you've reached the limits with LogiCalc, then look at the CP-88.

As for the RAM DISK, this capability allows you to use the memory on the CP-88 as an 'Electronic' disk drive, providing almost instantaneous loading of programs and data. The Ram Disk can be used only when you are not using the CP-88 to run MS-

DOS applications.

The CP-88 may be ordered as an upgrade to MD3 and MD11 systems **ONLY.** This is because it requires double-sided disk drives. As an upgrade, it is priced at $499.00 for the 128K version, and $699.00 for the 256K version, including software. To order a new machine with the CP-88 installed, the price is $499.00 plus the cost of the Micro Decision, for a 256K version. The difference in cost between an upgrade and the factory installed price is due to the fact that we must exchange the power supply on the upgrade, but not if the system is factory installed.

Now, for some questions.....

Question: I bought the MD3 with the MDT60 terminal. I am at a loss as to how to use the KEYBRD LOCK and OFF LINE lights on the keyboard. Can you help?

Answer: The keyboard used on the MDT60 is the same as the keyboard used on the Zenith Z-29. The Z-29 has a command to lock the keyboard under software control to prevent accidental key presses from affecting a program. The MDT60 has no such command, since no applications programs use it under CP/M. The light is simply a carryover from the Z-29. The IL, DL, IC, and DC labels on the keypad are also carry-overs from the Z-29.

The off line light however is a different matter. It is used to indicate the state of the numeric keypad. If the light is off, the keypad sends the characters as shown on the keys, and when the light is on it indicates that the terminal is sending function key sequences instead. To turn the light on, type

ESC [

from the A>, and to turn it off, type

ESC]

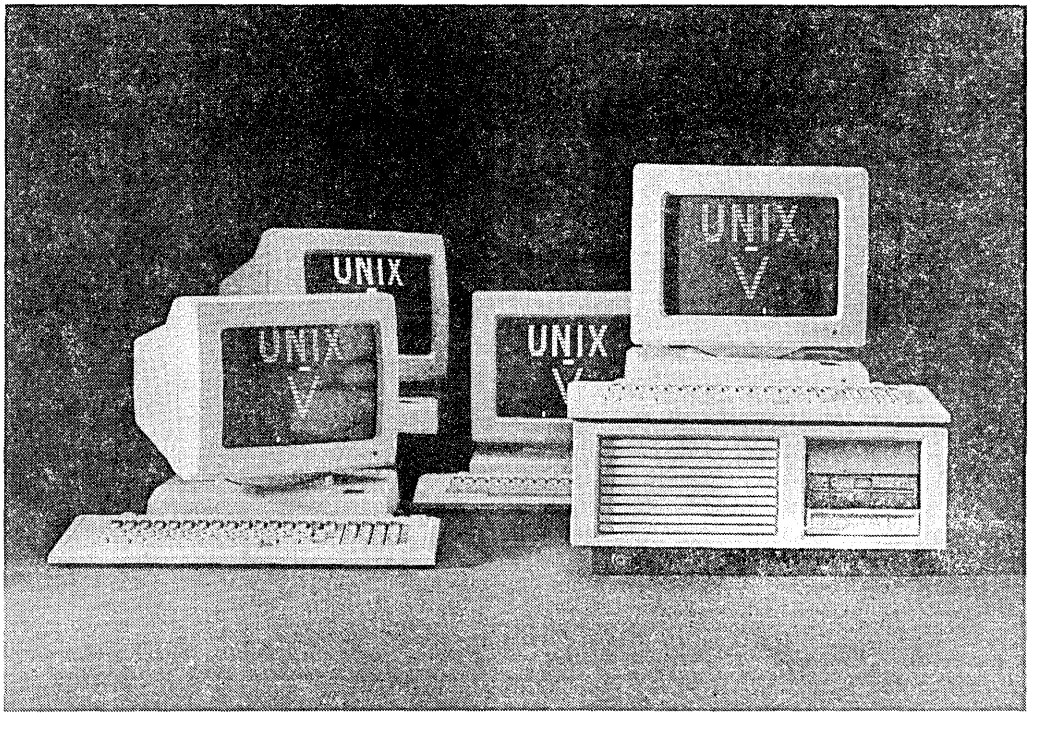
from the A>.

Question: How can I get escape sequences into a Personal Pearl report to control my Epson printer?

Answer: Easy. When you are ready to produce a report and you get to Pearl's PRINTOUT DETAILS menu, enter a file name for the report. This will send the report to a file instead of the printer, and allow you to put any kind of control characters and print format details in the file using NewWord or WordStar.

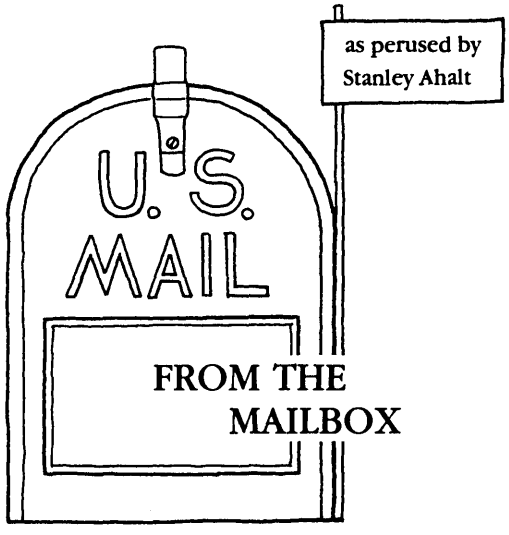
SPECIAL NOTICE: If you want to contact me directly, you can send me EMAIL via CompuServe. My number is 72116,2650. You may also find me some Friday nights between 7 and 9 PM Pacific Standard Time on CompuServe's CP-MIG On-Line Conference. You can get answers quickly if I'm on it.

Until next month.... Clean those disk drives!



This is the new multi-user, multi-task computer system called TRICEP, a member of the S-100 family of computers.

It comes with an operating system derived from UNIX system 5 with UNISOFT enhance-ments. Harddisk starts at 16MB, the floppy is 5 1/4 ". Available in August from $8500 on up.



Let me remind you that this is a user-driven column. Send in all your questions, comments, gripes, or money. (Just kidding). I can tell that the MOR readers are getting more sophisticated, I can't answer most of the questions that are pouring in! BUT SOMEONE CAN! Use this column to chat with your fellow Morrow users.

My wife was lucky enough to be able to go to the recent COMDEX show in Atlanta. I was out of town, and she was dying to go. She met both Ed Niehaus and Dave Block, who were gracious and helpful. She couldn't wait to scoop me, she had SEEN THE PIVOT. Says it looks and runs beautifully. It does run Lotus 123, but doesn't run Flight Simulator. It MIGHT have an optional port added which will output RGB which will MAYBE make it truly graphics-compatible with the IBM. I hope to be able to get my hands on one in a month or so, and I'll be reporting back to you.....

Also, Morrow has just announced the MD16 and MD34, with 16 and 34 Mbyte hard drives. WOW! I've used mainframes with less disk!

The Diablo Valley user's letter reports that Morrow is about to make some major announcements.. Stay Tuned....

Does anyone know how to make the Freedom 50 printer port work? It might only require a few wires to be attached to the RS-232 connector.

For you TURBO Pascal users, let me suggest joining up with the new TURBO Users Group (TUG). PO Box 1510, Poulsbo, WA 98730. Their first newsletter is excellent.

Howard K. is assistant editor of the Denver Post's Sunday Magazine, EMPIRE. A fine publication which I used to read when I lived in Boulder. He writes to ask about modems/communications programs. Howard, please see the ReachOut article in this issue, and Sypko's article in the last MOR. Also see the SmartKey review in the last issue. No, you cannot upgrade your MD3 to 256K, unless you add on one of the Co-processor boards. If you do this, then you will have MS-DOS compatibility, and you can use the extra RAM as a RamDisk when it is running CP/M.

Frank O'D in Philly is using a "rather basic program" with his new Password Modem. Frank, please see the ReachOut review. It's the program you want.

I have been trying to solve a sticky problem that shouldn't be sticky. How can you convert all of your old LogiCalc files so that SuperCalc2 can use them? After all that work, we surely don't want to have to retype all those cells!

Anyone out there who has used Open Systems software? Ray B. of Lexington, KY, writes that he wants to use their software on an MD11, but is not sure he can get it downloaded from the 8" sssd diskettes it comes on. Ray, please call me at (412) 578-4723 evenings, I might know of someone. Any other suggestions?

Karl M. of Gig Harbor, WA, wants to find out more about the 96TPI drives I have added to my system. He's not the only one. Jim W. of San Diego is adding them to his system. A few dealers seem to be offering them "cheap" right now. The best person to ask is the person who helped me get mine going. Scott Secor, 854 120th Lane, N.W., Coon Rapids, MN. 55433. Write me if I can help!

Dick E. of Lovetsville, VA. (God's Country) writes that my Best of the Public Domain software project is risky, due to frequent updates, etc. Boy, you're not kidding. Dick, why don't we try to work closely on this, since you are obviously up on what is out there. Anyone else want to help? I know that Ernest S. of Derry, PA, is willing to help.

Cokey de, P. from Columbia, SC, (YAY!) is going to send us some stuff on his experiences with the Morrow Decision 1 and Micronix. Maybe we can include the "Big Boys" in our little party.

John S. of Memphis, Tenn. writes to help out Jim F. If you end a Personal Pearl file with a blank followed by a "-", then continue the same report line on the next line you can coerce PP to print out greater than 80 chars per line. Further info on page 29 of the General Ref. Manual. If that wasn't enough, he also has some tips for Robert S. He recommends "Getting the Most from Wordstar and Mailmerge" by M. David Stone. This helps out with microjustification and proportional spacing. THANKS John.

Paul G. of Union, SC writes to say that there

is room for 5 more function keys on the inside of the MDT50 terminal. He wants to know if anyone has tested the feasiblity of adding more keys.

My abject apologies to Ray D. of Tucker, GA. who sent me a Basic program in response to my questions about configuring the serial port on our MD's. Your letter arrived after the last MOR went to bed. I am now preparing a short article on this program, and you should see it in print soon.

How about a CONTEST? Everybody put on thinking caps and come up with ideas for new programs. Then we can all share when the intrepid programmers in our midsts come up with actual programs. Here is your chance for fame and fortune (?). How about a free subscription to MOR for the reader who sends in the best program suggestion?

Does anyone know how to make the MD compatible with VT-100 terminals? It would be of great help to Rebeccah P. of the Chicago Medical School. She can get things to work right when she installs for the VT-52 terminal and then patches the clear screen from ESC * to ^Z, but the VT-100 seems to want ASCII cursor addressing. Come on, you VAX hackers. Can it be done?

My apologies if I haven't addressed your problem in this column. Don't fear. I will. It is just that the volume of mail is beginning to overwhelm me. For instance, I got a letter describing how I have not answered the question of disk head cleaning. No, I haven't. I don't know. However; I am going to clean my heads if the order from Priority One ever arrives. I can't answer every question. Lately, I'm not sure I can answer ANY question. Things in the Morrow world have heated up. There are so many different configurations and uses out there, I can't even keep track of them. So let's all help each other. Maybe when I have my dissertation finished I'll have more time...

DEALER RELATIONSHIPS

by Clarence Heier

Recently, an issue came to my attention that causes much concern. This issue has some very serious potential consequences for all Morrow users. The issue concerns the availability of Morrow computers and the practice of selling computers with bundled software. Although the Micro Decision represents a considerable value to the purchaser, it also represents a substantial investment. The purchaser is entitled to obtain equipment that performs as advertised, equipment that is able to be used in the manner intended by the manufacturer. This includes obtaining full use of the bundled software.

Although Morrow has provided the Micro Menus and has pre- installed the bundled software to keep the Morrow purchaser from getting too involved, practical use of the bundled software still requires much additional knowledge. This knowledge can be obtained from the manuals supplied but many of these manuals are difficult for the novice to understand.

The Micro Decision is a low margin machine and because Micro Decision is sold with bundled software, the dealer has little opportunity to augment his profit with add-on sales of software. The dealer has an obligation to the customer to provide some instruction on the use of the hardware and software. This instruction can involve quite a number of man-hours, because of the amount and type of bundled software and the experience level of the typical Micro Decision purchaser.

The dealer also has an obligation to his investors to generate profits. These profits must be equivalent to the return on investment that the investors can obtain elsewhere. The dealer must always be weighing the cost of providing support to a particular product line with the profits that are generated by that product line. When the cost of support becomes too high, the product line will be dropped. That's just good business.

The dealer is left with several choices:

1. The dealer can decide not to sell computer equipment that comes with bundled software, as several national chain stores have done. The primary reason many Micro Decision owners bought the equipment they did was precisely because of the bundled software that came with their equipment. (This choice is not satisfactory to Morrow equipment owners.)

2. The dealer can provide a minimal amount of free support to his customers and after this level has been reached, institute a charge for support. Because of the amount of money involved and the nature of the equipment, the dealer may be legally liable to provide a

reasonable amount of support. "Reasonable" is of course a subjective term and will vary considerably with the customer and with the dealership.

3. The dealer can provide classroom training to his customer. The dealer is at least able to answer the same question for more than one customer at a time. This method does cost money as a facility needs to be provided and the instructor must be paid. It also does not relieve the dealer of supporting the person who needs an immediate solution to his problem and can't wait for the scheduled class.

4. The dealer can limit his after sale support to the same level as that provided by the local automobile dealer, that of providing warranty service and nothing else. When did you last talk to an automobile dealer who was willing to teach you how to drive or to offer to assist you in installing a device that was purchased elsewhere? Obviously the computer has not yet reached the level of the automobile or the refrigerator, where this is possible. Or has it?

5. The dealer can actively support a local users group and provide them with the incentive to provide much of the after-sale support a customer needs.

Obviously the answer to this complex issue is a combination of the suggestions listed above. But the one that I am directly involved in and that really has the most potential for solving this dilemma is the issue of a dealership supporting a local group.

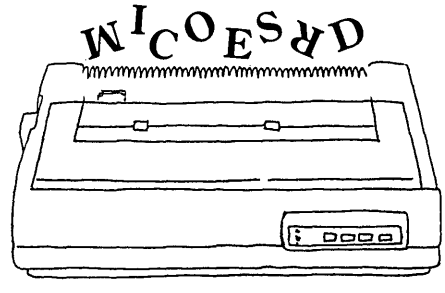
A dealer needs to be directly involved in the local group if there is one. If there isn't one, the dealer must be instrumental in the formation of a local group. The dealer can help organize a group by simply mailing a letter to former customers and providing a facility for the first meeting. The interested parties will take it from there. Thereafter, the dealer need only stay involved in the group as a user of the Micro Decision and by referring customers to the group by posting notices.

There are several ways that a group can help a dealer. One of the best things that a group can do is to assist the novice in using and understanding the Micro Decision and bundled software. This can be done by making "help" numbers available to the membership (phone numbers of members who are willing and able to help another user) and by holding classes for the novice. Other things that can be done are to encourage membership to buy from dealers that are supporting the local group, and to refrain from direct group buys. (This is dealer turf.)

If you are interested in forming a group in your area (whether you are a dealer or an individual), please write to me. I will share any names of others in your area who are interested in forming a group, and will give you any advice I can. Please write to:

Clarence Heier
3430 93rd Street
Sturtevant, WI 53177

I am committed to the formation of Morrow users groups around the country and want to help you. All names will be kept confidential and will be distributed only to others in your area who express a similar interest.



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How do you effectively and gracefully manage this information? Recall at a moment's notice just the right answer to a question? Organize the mass of material you have gathered to prepare a legal strategy or write a book? Or stay precisely current for each of your clients or sales prospects – when you last spoke, what was said, when to call again?

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CITATION supports effective fact management with fast, simple data entry, powerful access methods, useful reports, and an interface with typical mailing-list merge programs.

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Lifelines 12/82[1]

With CITATION you can store and retrieve information in your choice of three screen formats: name/address of person or company, book reference, or journal/magazine citation. Besides appropriate predefined fields, each of these formats allows up to 6 keywords and ten 80-character lines of "free text" to use as you like.

And you can freely mix these formats, so a database is not restricted to just one kind of information.

But the real power of CITATION is its effectiveness for finding and using this information – it is directly and quickly accessible in several ways.

InfoWorld
Software Report Card
Citation

	Poor	Fair	Good	Excellent
Performance	☐	☐	☐	☑
Documentation	☐	☐	☐	☑
Ease of Use	☐	☐	☐	☑
Error Handling	☐	☐	☐	☑

"I seldom find myself with only positive things to say about a product, but Citation is a notable exception."
InfoWorld 8/82[2]

First, you can browse through a database on any subject (keyword). That is, you can name any subject, and your database will instantly appear to consist only of items related to that subject.

And you can browse for specific names, or book or magazine titles. Or authors. Or ZIP codes.

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But powerful functions alone are not enough. To be truly useful a program must be so simple to operate that you never hesitate to use it when you need it. You'll find CITATION really measures up. For example:

- Unlike most database systems, CITATION is always ready to use. You don't design screens or reports or learn special commands.
- CITATION's text editor is built-in, so you don't have to use a separate program.
- A keyword index file is maintained automatically as you enter your data, so no time-consuming index-building programs are needed.
- CITATION is menu-driven with many one-stroke commands and help messages, making the manual almost unnecessary.

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Deceptively simple in concept, CITATION has a range of applications as unlimited as your imagination. Here are some examples: You will undoubtedly see many other ways to apply CITATION in your own field of interest.

Catalog business libraries • cross reference information for legal cases or trials • manage consulting notes by client, date, subject, time spent, next meeting • maintain vendor directories for services, products • manage research notes • stay current on sales prospects by type of business, nature of interest in your products or services • cross reference personnel skills in your company or in an agency • cross reference physical files in your office to find anything by subject almost instantly.

You get the idea. The list could go on and on. And CITATION allows as many databases as you want on a single disk, so you can easily handle many different applications.

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Your productivity is the purpose of CITATION. And as you use CITATION, you will appreciate these advanced features which make CITATION a true productivity tool:

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"Citation's documentation ranks with the best."
Interface Age 8/83[3]

- word-processing-type commands with automatic word-wrap in the "free text" portion of your records • can create files compatible with most mailing-list merge programs for labels, letters, bibliographies, etc. • keyword index report/display shows all references for each keyword • list of keywords used in the database.

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GRAPHIC PACKAGE FOR THE MORROW!

by Mike Rinaldi

While many owners of CP/M 80 microcomputers feel dismayed by computer advertisements showing the power and beauty of graphics on the 16 bit IBM (and compatibles), there's no need despair! One can achieve some excellent graphics on CP/M 80 machines in general and, for our interests, on the Morrow Micro Decision. An increasing number of commercially available graphics programs produce very respectable tables, pie, line, and bar-charts. For those of you with whetted appetites, see the enclosed examples generated on an MD-3 and C. Itoh 8510 Prowriter dot-matrix printer.

We can recommend the following software as worthy of consideration if you need graphics enhancements.

1) GRAFIKS, Ver. 2.0
sold by Robonics
936 Hermosa Avenue
Hermosa Beach, CA 90254
(213) 316-7740; $125.00

2) dGRAPH, Ver. 1.0C
sold by Fox and Geller
604 Market St.,
Elmwood Park, NJ 07407
(201) 794-8883
or (800) 221-0156
Approx. $195.00

3) REPORTMAKER, Ver. 2.0
sold by Krepec Software, Inc.
5460 Royalmount, Suite 208
Montreal, Quebec
CANADA H4P 1HB
(514) 735-4749; $130.00

4) Disk K-19, PROWRITER GRAPHICS
sold by Micro Cornucopia
P.O. Box 223
Bend, OR 97709
(503) 382-8048; $12.00

This product is actually configured for a Kaypro microcomputer; however, if you possess UNIFORM you can easily transfer the programs to a Morrow format (by now Micro Cornucopia may even have it available in a Morrow format).

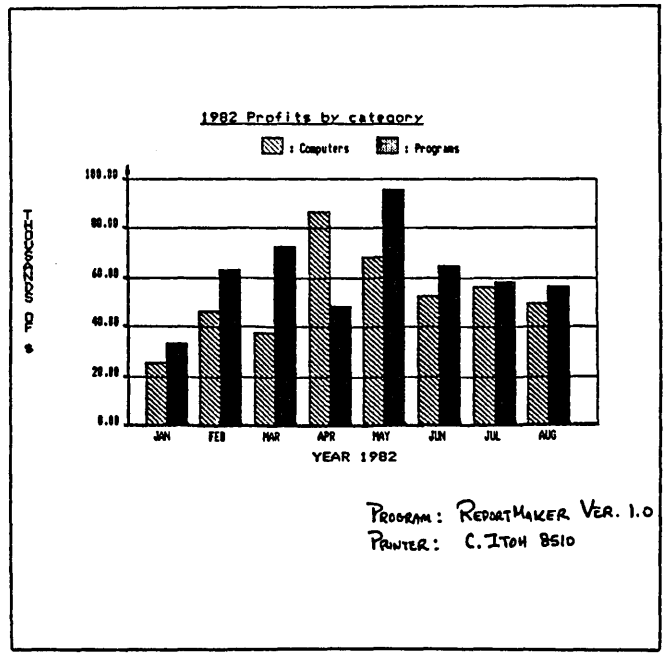
Considering Morrow computers aren't supposed to support graphics, it is impressive what can be achieved, although there are some weaknesses.

Two limitations are common to these packages: slowness and lack of color. Those who have used LOTUS 1-2-3 on an IBM PC-XT or other enhanced 16 bit system may be spoiled by virtually instant calculations. Those of us on smaller budgets can simply plan to pour a fresh cup of coffee while our Morrow plans how to draw a multi-shaded pie chart. The lack of color graphics is really of little importance in our opinion. Even on an expanded IBM-PC (special graphics card, numerical co-processor, dual terminals) with an IDS Prism color printer, the printing of a single, full size color graph can take 20 minutes. We also find that color graphs tend to reproduce poorly on most copying machines; hence, plain black and white graphs are most commonly used.

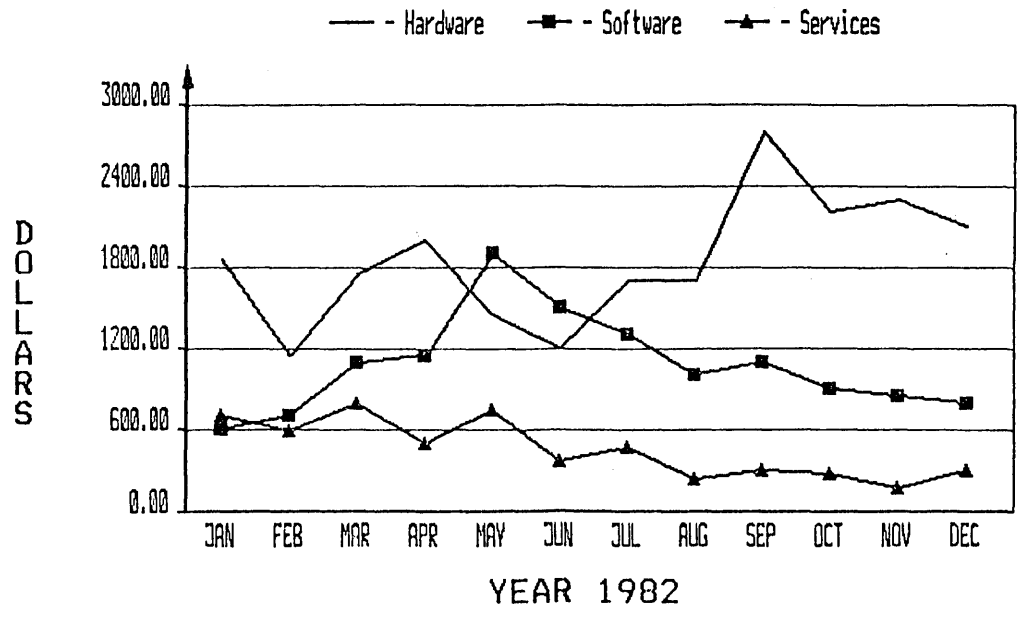
We have evaluated these software packages extensively and would be happy to answer questions submitted to the Morrow Owners' Review.

Best wishes to Morrow owners/users from Montana!

Mike Rinaldi - Dept. of Microbiology
Steve Hample - Institutional Research
Montana State University
Bozeman, Montana 59717-0001

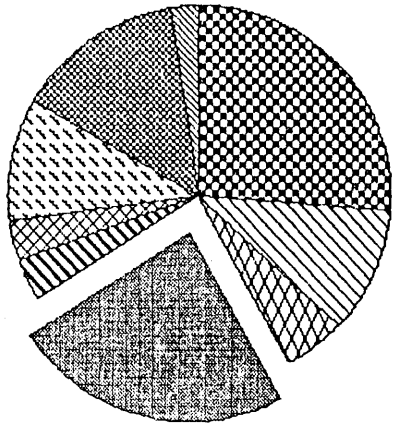


1982 Sales by category



PROGRAM: REPORTMAKER VER. 1.0
PRINTER: C. ITOH 8510

1982 Sales by products (thousands of dollars)



- microcomputers	60.23	(26.3%)
- printers	24.24	(10.6%)
- monitors	12.30	(5.4%)
- business software	53.92	(23.6%)
- hard disks	8.09	(3.5%)
- games software	7.92	(3.5%)
- floppy disks	24.24	(10.6%)
- services	32.22	(14.1%)
- documentation	5.43	(2.4%)

TOTAL: 228.59 (100%)

PROGRAM: REPORTMAKER VER. 1.0
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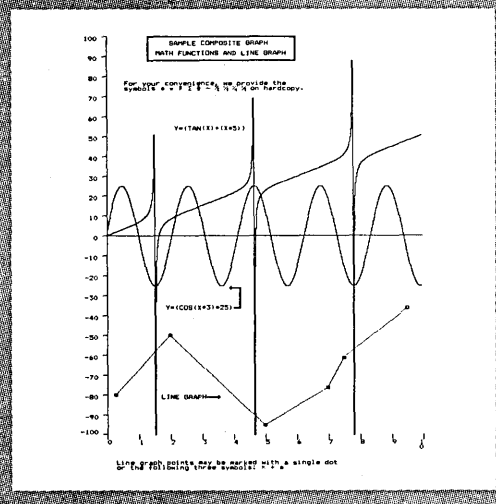
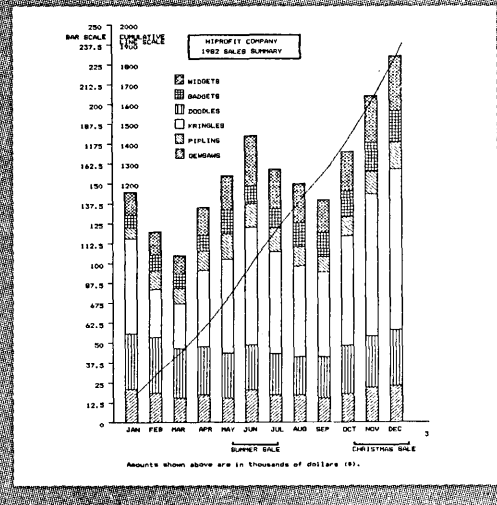
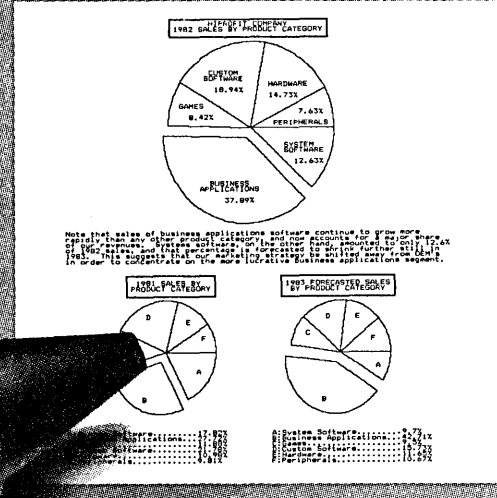
- Interfaces to SUPERCALC, dBASE II, MBASIC, CBASIC, WORDSTAR, LOGICALC, PERFECT CALC, PERFECT FILER, PERSONAL PEARL.
- Supports many different dot matrix printers, including Epson, NEC, C.Itoh, Okidata and IDS.
- Extremely friendly screen-oriented menus, which allow you to back up and correct mistakes at any time.
- Interactively create, view and edit charts on the screen before printing.
- Automatically saves graphs on disk for later use or update.







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Or complete and return this coupon to receive GRAFIKS 2.0 by mail.

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Osborne 1: ☐ Single density ☐ Double density ☐ Osborne Executive ☐ Kaypro ☐ Morrow

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FRIENDLY COMMUNICATIONS

Another review of ReachOut

by Stan Ahalt

ReachOut is a telecommunications program which was written by Sandy Gossman of Applied Computer Techniques. This review is of the latest version: 2.001AY. You might want to re-read Sypko's preliminary review in the last MOR before you read on, as I am going to jump right in with a functional overview. For those of you who are accustomed to an executive summary, here it is:

I got my copy of Reachout early in May. Since then it is all I have used for my computer communication needs.

Some of the more important ReachOut features are:

1. Menu-driven configuration for a number of different modems, computers, and terminals, so you can use it with systems other than the Morrow.

2. Multiple dialing modes: from a directory, from the keyboard, redial the last number dialed, redialing of busy numbers, or, for those with inexpensive modems, manual dialing. With auto-dial modems, dialing can include pauses to wait for additional dial tones.

3. With modems that have speakers, you can listen to the dialing process, or not, depending on how you answered questions when the program was installed.

4. Multiple file-transfer modes. You can upload to mainframes using the "rapid-type" mode (with error checking turned off, with an optional delay at the end of each line and/or between each character if required by the other system). If you communicate frequently with the behemoth at your school or workplace, this is invaluable.

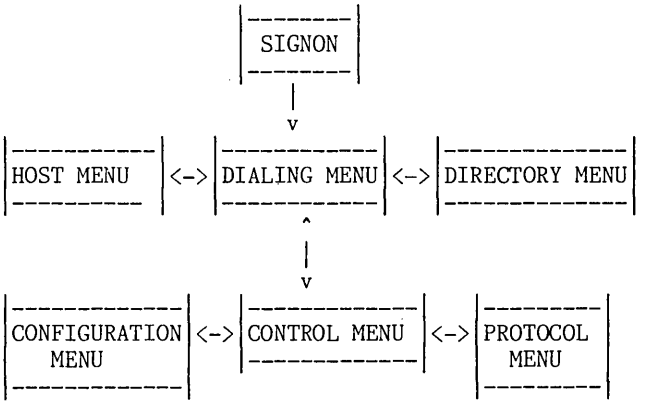
5. When in the auto answer (ReachOut host) mode, a status report informs the operator of the host the system of the number of calls (from a computer) and the number of files transferred in both directions. The host operator can monitor what the caller is doing at all times.

6. With both systems using ReachOut, files can be transferred either singly, or in a group. A group can specified by either an ambiguous name (i.e., *.doc) or by listing the names of the files in a file. Both operators will be told the time required for a transfer. The space remaining on the receiving disk is tested before each file is sent; files that are too big to fit are skipped, and the name stored in a file that can later be used to define a batch. Other lists are sometimes made; for example, if a batch is aborted mid-stream, the name of the current file and all files not yet processed are written to file called LEFTOVER.LST. Of course, if there are any data errors during a transfer (due to a poor connection or someone attempting to use an extension phone) the bad segment of data will be automatically re-transmitted.

7. ReachOut supports XON/XOFF protocols, again a handy thing to have when you need to talk to larger computers.

8. A built-in "help system" offers special assistance when needed: just press (?) when you need help.

There are six menus in ReachOut. Please note that I have adopted my own names for some of these menus, just for the sake of clarity in this review. They are interrelated as:



The functions of the menus are:

DIALING MENU: Takes you to either the Directory Menu or the Host Menu. Directly from the Dialing Menu you can, among other things, key in the number to be dialed; establish the name of a file in which to log everything you see on the screen once the connection is established; redial the last number you dialed; change the baud rate; or exit to CP/M. You can also instruct ReachOut to listen for a computer to answer when you have finished manually dialing. Or you can go to the...

DIALING DIRECTORY: A Menu of the numbers which can be automatically dialed. Sign-on scripts may also be located here. A script can control

entering your ID and password for a system such as Compuserve, making the procedure automatic merely by selecting the directory choice. A script can also do other things; more on that later. If you want to dial a number in the directory but do not want to execute the script, a "Control-I" will cause the script to be ignored.

From the DIALING MENU you can also go to the...

HOST MENU: Controls interactions when your system is monitoring for calls from another computer. From this menu you can look at the directory of the disk the caller will use, see how much space is left on it, erase files as needed, and change disks. This menu also displays the number of calls received and the number of files transferred.

The user who calls your computer is presented with a menu which instructs her/him to ask for a directory, send files, or receive files. He/she can specify files ambiguously in the batch mode. This feature allows you to essentially set up your own remote system, accessible by anyone who is also running ReachOut. This is an easy way for a small company to set up a Local Area Network.

Also, the calling system is integrated with the host, with the host controlling the system of the caller once the caller specifies a function. No XMODEM-type of commands are needed.

Finally, from the DIALING MENU you can go to the..

CONTROL MENU: This is the "main menu", used primarily after a connection is established. Some of the things you can do from the Control Menu are:

1. Create a logging file in which you can "capture" the data seen on the screen.

2. Do file manipulation including rename, delete, or examine.

3. Do disk manipulation including looking at the directory, checking free space, changing current drives, and logging-in another disk.

4. Receive or send a file, singly or batch mode.

5. Go into full or half duplex terminal mode.

6. Go back to the Dialing Menu, exit to CP/M, or go either to the Protocol Menu or to the...

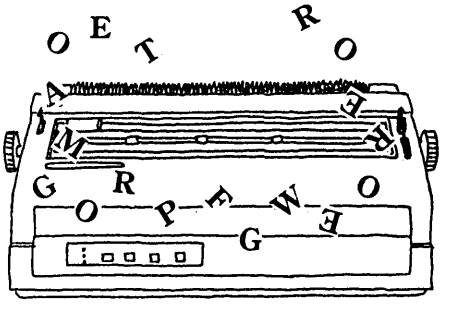
CONFIGURATION MENU: which is used for operational control and setting file transfer parameters. You can choose an alternative character set, change the baud rate, turn a control-character filter on/off, change the help level, toggle the carrier tone from originate to answer, change the XON/XOFF pair and whether or not to use it, change the way the high-order (parity) bit is treated, or go back to control menu... (WHEW!)

PROTOCOL MENU: Determines the error checking technique to be used. The available protocols are ReachOut-to-ReachOut, Christensen, CP/M Users' Group CRC, or echo-plex.

ReachOut is POWERFUL. For example, with a group of simple scripts you could call a data service -- such as one that gives stock reports -- each day of the week, automatically give your account number and password, get to the desired location within the host system, open a logging file named for the day of the week that you are calling (i.e., STOCKS.TUE), get information from three different areas of the system and, upon the occurrence of an expected string (like the third occurrence of the prompt "Are you done?"), save the data to disk, and hangup, ALL WITH ONE KEYSTROKE.

Summary: ReachOut is a fine piece of software. It is simple to use, and darn near self-explanatory. With it you can communicate with subscription data services, send and receive electronic mail and Telex's, transfer files between systems using ReachOut, as well as those using many other commercial programs, and all Remote Bulletin Board and RCP/M systems (from which you can get a wealth of public-domain software). ReachOut is written in assembly language, and because of this it executes rapidly. The manual is well written and understandable. It is easily the "richest" communications program I have seen.

Applied Computer Techniques
104 Knight Drive
San Rafael, CA 94901
(415) 459-3212



ReachOut™

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Can be used on your Micro Decision
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REVIEW OF MICRO LINK II COMMUNICATIONS SOFTWARE

By Gary Frankenbery

Micro Link II (hereinafter referred to as ML II) is a communications program that exists in versions targeted for specific CP/M 2, CP/M-86, and MS-DOS computers. Fortunately, this includes a version for the Micro Decision, the version under review here.

I have used ML II to communicate with numerous bulletin boards, with no problems. Digital Marketing (the distributor of ML II) also claims that ML II will allow communication with the popular service networks such as The Source, CompuServ, and Telex. Given the versatility of ML II, I see no reason to dispute this claim.

Modes of file transmission.

When communicating with bulletin boards using ML II, I have successfully uploaded and downloaded both ASCII and binary (.COM) files. ML II supports several upload/download protocols. Those file transfer protocols supported include the following:

(1) Modem7 and XModem - used to transmit on a sector basis using the Christensen protocols. This method is used to transmit binary files.
(2) Line file - a file which is sent one line at a time, and then waits for a prompt character before sending the next line.
(3) Block file - file which is sent continuously.
(4) Character file - each character is sent one at a time after the receiver has echoed the character back to acknowledge receipt.
(5) Character-line file - combines features of (2) and (4).

In addition, ML II allows you to set up specific pause and resume signals for file transmission (such as CTRL-S and CTRL-Q).

Feature summary.

ML II is a versatile, menu-driven program. Here are some of its features:

(1) Filter out (optionally) unwanted characters during file transmission, such as control characters or linefeed characters.
(2) Filter out unwanted characters for purposes of screen display.
(3) Copy any part or all of a communications session, and store it to disk. Automatic storage of the copy buffer to disk when it becomes full.
(4) Storage of phrases (up to 20) for autodialing with intelligent modems.
(5) Setup menu for communicating at various baud rates, parities, and word lengths.
(6) Preview of file onscreen prior to sending.

There are many more features of ML II which are too numerous to discuss here.

Documentation.

The manual is well written, but some additional explanation would be useful; however, the manual was adequate for a novice to telecommunications, like myself, to get started and accomplish what was needed.

Shortcomings.

What does ML II lack? Well, there is no feature to allow automatic redialing until connection is made. You cannot issue CP/M commands from within ML II (although there is a menu command which allows the operator to view the disk directory). And finally, you cannot store on disk your own default configuration for the serial port. You must tell ML II what baud rate, parity, etc., that you want each time you execute ML II (unless you usually use 300 baud, in which case the ML default will probably be satisfactory).

Error trapping.

What does ML II do if you haven't switched on your modem? Or what happens if your modem is not connected to the Micro Decision port? ML II just patiently waits for you to discover your error. It doesn't crash, and it doesn't send you an error message either. Since it doesn't send me into never-never land when I try to communicate with a device that is not present, I'm satisfied. Other types of operator error are well trapped, with brief error messages (short phrases) describing the error. I have never crashed this program.

Parity.

The default setting for the serial port menu is no parity. Even and odd parities are on the serial port setup menu as options. Since I have not attempted telecommunications with either odd or even parity, I cannot say whether the even and odd parity options work.

Price/ordering information.

For more information about ML II, call 1-800-826-2222, or write to:
Digital Marketing Corp.
2363 Boulevard Circle
Walnut Creek, CA 94595
(415)947-1000
Telex 17-1852

The price of ML II when I purchased mine six months ago was $89.95.

The all-in-all.

This is a fine program. It is easy to use, and very versatile. It should allow the user to accomplish just about anything needed in the realm of telecommunications.

Probably what is now needed is a comparison review of communications packages that exist in versions tailored for the Micro Decision, such as ML II, MITE, and the packages that Morrow Designs is bundling with their modem.

A VERY SIMPLE MODEM PROGRAM IN BASIC

by Erik Westgard

Less than an hour after unpacking my new Morrow MD2 I was seized by the desire to communicate with the outside world. I had a home-made 300 baud modem, and a cable, but no communications software. Indeed the largest source for such programs are the bulletin boards and services like CompuServe. The paradox was that to get a modem program, one had to have one first.

All I had to work with that first night was the Morrow-supplied documentation and software. (Alas, no sample terminal programs). Since I knew how to program in BASIC, and had no Z-80 assembler manuals around, I decided to write in BASIC. One could think that MBASIC would be too slow to write communications software with, but I remembered that my roommate had written some file transfer programs in BASIC during college, so I had at least a chance.

The updated Morrow User's Guide (appendix d, p. 14-17) documents the addresses, pinouts and jumper settings for the MD modem/printer port. I jumpered pins 1-2,3-4,5-6,8-19,12-13,21-22, 23-24 and 25-26 on JPB on the main circuit board near the second serial connector. This seems to work fine with a standard RS232 cable, and standard modems. MBASIC provides INP and OUT statements so that we can communicate directly with the ports and status registers.

Looking at the supplied listing below you can see that I first check port OFF hex, (255) the printer status port. If bit 1 is high, a character has been received from the host. If so, I input the character, check to see if it is valid, and print it at the console. I then check to see if there has been a key pressed at the console. If so, I send it from port OFE hex (254), and jump back to check the input status. I have included a check for a tilde character input (ASCII 126) so I can send a Control-C to the host computer which otherwise would abort the program. I also do not pass the Escape character through to the terminal, since I was finding that my terminal could misinterpret garbled input as commands to lock the keyboard, etc.

I have been using this program for almost a year now, and have been completely happy. It will not work at 1200 baud, but will support half duplex by adding line 135 to echo characters entered locally at the keyboard. It does not support changing parity, stop bits, etc. I have used the program on all the major timesharing services, and many BBS's, with no problems. File transfer is an option I considered adding, but one would need to send an X-OFF each time the MD writes a disk buffer to the diskette, since communications would be interrupted and characters could be lost.

```
 10 PRINT "Terminal Emulator Version 2.00 "
 20 REM *** Input Loop
 30 Q=INP(255)
 40 C1=Q AND 255
 50 C2=Q AND 253
 60 IF C1-C2=2 THEN 80
 70 GOTO 130
 80 A=INP(254)
 90 IF A>128 THEN A=A-128
100 IF A=27 THEN 130
110 IF A=124 THEN 130
120 PRINT CHR$(A);
125 REM *** Check keyboard
130 A$=INKEY$:IF LEN(A$)=0 THEN 20
135 REM *** For half duplex use 135 PRINT A$;
140 P=ASC(A$)
150 IF P=126 THEN 180
155 REM *** Tilde sends Control-C ***
160 OUT 254,P
170 GOTO 20
180 OUT 254,3
190 GOTO 20
200 END
```

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CONNECTING YOUR MD TO A RADIO SHACK 100

by N.W. Visser

If there is one thing a computer requires, it's another computer to talk to. In a household that includes an academic and a journalist, not to mention two children who can't get enough of Ladders and Aliens, our Morrow MD2, splendid as it was wasn't enough. I couldn't haul it off to the library to take down research notes, and my wife can't carry it around in search of stories. The answer clearly was either the NEC 8201 or the Radio Shack 100. The former might be the ideal portable computer for business people, but for writers and academics, the 100 can't be beaten.

Once I had my 100, my problems began: how to get my favorite toys to communicate with each other. (By the way, Radio Shack runs frequent specials on the 100, so don't pay the list price. Also, buy the 8K RAM model and get expansion chips from advertisers in magazines like Portable 100. That way you can get the full 32K RAM for less than the sale price of Radio Shack's 24K RAM model.) The solution to my communications problem took a bit of battling, and more than a bit of help from my friends, so I thought I'd pass it on in order to save other Morrow owners the trouble.

Setting up.

communications parameters for the 100's built-in modem program (TELCOM). After some trial and error, I arrived at 58N1E. (5=1200 Baud, 8=8bits, N=no parity, 1=1stop bit, E=enable XON) To set them, all you do is enter TELCOM, press F3 (Stat), and enter the parameters. They stay in memory, so you won't have to worry about them again.

Then it was the Morrow's turn. You can attach a null-modem to the Morrow and then simply connect the computers with a standard RS-232 cable, but I wasn't prepared to pay $35.00 for a null-modem. The alternative -- reconfiguring the JPB settings -- turned out to be easier than it sounds. Although I'm not entirely a manual defective, I'm not a computer engineer either. After getting reassurance from more experienced friends that my precious Morrow wouldn't go up in smoke if I removed the cover, I got to work.

The job required a Phillips screwdriver (for the four screws on the bottom of the Morrow), a rather long pair of tweezers for removing the jumper pins, and all of five minutes. What you do is compare the diagrams on pages 98 and 99 of the Micro Decision User's Guide. Then sit for a moment and look at the pins themselves. I overlooked the fact that I was going to need an additional pin, but a quick trip to the helpful people who sold me the Morrow (Anchor Computer in Seattle) took care of that. Change the pins to the configuration shown on page 99, close up the Morrow, and that's it.

Getting them to talk.

I usually have to upload from the 100 to the Morrow, so that's what I'll begin with. First, on the 100, enter the TELCOM program. Press F4 for Terminal Mode. The menu will change, at which point press F3 for Upload. You will be asked for the Filename. Type it in, press <cr>, and you will be asked for a line-width. I use 65 so that it will conform with the WordStar default. DON'T press <cr> yet.

Then on the Morrow, call up MORMODEM. At "COMMAND" type: E FILENAME.EXT <cr>. The cursor will drop down a line. Then type ^Y. The display will say "Buffer open." THEN hit the <cr> on the 100, and you will see the words flash across the screen. When the 100 has stopped sending, type ^R, and the screen will display "Buffer closed." Then type ^E to end. Now you will get a warning that if you don't write the file to a disk, it will be lost, so type: WRT FILENAME.EXT. That's it!

One bonus of the 100 is the built-in modem, which saves me the bother of setting up the Morrow for modem communication via telephone. I simply download into the 100, and I'm in business. The procedure goes like this: on the 100, enter TELCOM, press F4 for Terminal Mode, and then F3 for Download. Using MORMODEM on the Morrow, at COMMAND, type TXO. Then answer "Y" (yes) to the first question concerning X-ON; answer "N" (no) to the second. Then type "E", followed by ^T. Type the FILENAME.EXT <cr> when asked to, remembering the limits on length of filenames and extensions for the 100. (When you want to hook up the 100 to a telephone, you'll have to change the parameters back to the original setting: M7I1E.)

One minor but still important difference between the Morrow and the 100 can cause frustration. I often use the 100 for short letters that I want to print directly, without saving them to disk on the Morrow. The problem is this: whereas WordStar sends a line-feed at the end of each line, the 100 doesn't. If the dip-switches on your printer are on the outside, no

problem. On mine, however, they are buried deep in the inner workings. It can be annoying to have to remove the cover on the printer every time you have to change from one computer to the other, so the challenge becomes turning a frustration into an advantage.

What I finally worked out was to set the dip-switch on the printer to produce a line-feed in order to take care of the 100, and then install two versions of WordStar. I have to do a lot of work in double-spacing, and since the cursor movement with on-screen double-spacing is unwieldy, I simply leave one WordStar program as it is, edit with single spacing (since the program doesn't "know" it is really going to produce double-spaced print) and set a .PL command at the top of the document (.PL38 is about right) to get the right page-length.

Then I install a second WordStar, giving it a different name. This time I simply change the Hex at address 0698 in the Printer Patch Area from 0A to 00. That gets rid of the line-feed, and I can use this version for single-spaced documents. With these two versions of WordStar I have all the flexibility I need with a minimum of fuss.

Two final points. A file sent from the 100 to the Morrow has to be called up under WordStar (or NewWord) in order to be read; for some reason it won't come up properly under a CP/M TYPE command. And finally, it is useful to have the MORMODEM program on the file disks to which you frequently have to transfer material, and it is a good idea to have a set of these instructions as a document file on the same disks. I call mine MODCOM.DOC. In compressed form it looks like this:

100 → Morrow

Parameters on 100: 58N1E

Using MORMODEM

```
At COMMAND, type    E FILENAME.EXT <cr>
                    -    ^Y   (opens    buffer)
                    -    Send from 100
                    -    ^R   (closes buffer)
                    -    ^E   (to get out)
At COMMAND, type    WRT FILENAME.EXT  (to disk)
```

Morrow → 100

```
At COMMAND type     TXO
                    -    Y (Yes to 1st question)
                    -    N (No to 2nd question)
                    -    E
                    -    ^T
```

Then enter FILENAME.EXT <cr> when asked to, remembering limits on length of filenames and extensions on 100.)

CONNECTING YOUR MD TO AN EPSON HX-20

by Leonard Billingsby

I am a petroleum geologist, and find that I needed the ability to use a computer in the field for wordprocessing. The Epson HX-20 is very portable and has a built-in cassette drive. To communicate to my Morrow Micro Decision 3 through the RS232 ports:

CABLE CONFIGURATION:

```
Morrow MD3          Epson HX-20
     7----------1
     2----------2
     3----------3
     4----------4
     5----------5
     6----------6
     8----------8
     1----------case
```

PROCEDURES

ON MORROW
1. From CP/M
   SETUP <RETURN>
   4800 BAUD
   PRINTER PORT
   HANDSHAKING
   <E> (temporary change)
   <ESC>
2. STAT RDR:=UR1:,PUN:=UP1: <RETURN>
3. PIP_____.___=UR1: <RETURN>
   filename.ext

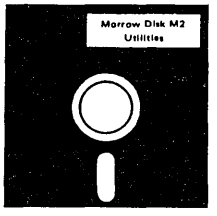
ON EPSON
4. ENTER SKIWRITER
5. SET LEFTHAND MARGIN TO ZERO
6. SELECT "PRINT" FROM MENU
7. SELECT "EXTERNALLY"
8. WAIT FOR EPSON PROMPT AND MORROW PROMPT

ON MORROW
9. FROM CP/M
   SETUP <RETURN>
   9600 BAUD
   <E>
   <ESC>
10. GO TO WORDSTAR

Micro Cornucopia

The Single Board Systems Journal

MORROW USERS DISKS



Micro Cornucopia is drawing rave reviews as the technical journal with style, but Micro C, as we like to call it, is more than just a magazine.

Micro C is also a central exchange of software that people have written or modified for their systems and from these contributions we have put together the following Morrow disks (186K format).

MICRO CORNUCOPIA

P.O. Box 223
Bend, OR 97709

VISA

(503) 382-8048

Morrow Users Disks

$12.00 each

The following are full disks of software assembled specifically for the Morrow. Each program has a .DOC (documentation) file and many come with source.

Morrow Disk M1
Modem software

This disk is absolutely priceless if you will be using a modem to communicate with bulletin boards, other micros or mainframes.

MMODEM: Morrow version of MODEM 795. You can change your baud rate inside the program. Includes source and library so you can customize it if you wish.

SMODEM: This is MODEM7 setup for SMARTMODEM compatible modems. Handles autodial and autoanswer.

SQ/USQ: Programs to squeeze and unsqueeze files for faster transfer.

Morrow Disk M2
Utilities

Really oodles of spiffy little (and big) programs to help you get full use of your Morrow.

ZESOURCE.COM: A true Zilog format disassembler for 8080 and Z80 object(.COM) files. Now you can turn .COM files into . MAC files.

UNERA.COM: Simply enter "UNERA" followed by the name of the file you just erased and presto, the erased file is back! A lifesaver.

FINDBD54.COM: Checks an entire disk, reports bad sectors, and then creates a special file containing those sectors. You save a bundle on disks.

CAT2: This a group of programs which create and maintain a single directory of all the programs you have on all your disks. Even keeps track of which programs are backed up and which aren't.

DUMPX, DU-77, COMPARE, FORMFEED, DIR-DUMP,... and all have documentation on disk.

Morrow Disk M3
Games

PACMAN.COM: Despite the Morrow's lack of graphics, this one looks and plays amazingly like the real thing! Keep it hidden.

ZCHESS.COM: Chess with a 1-6 level look ahead.

OTHELLO.COM: You learn it in minutes, master it in years.

BIO.COM: Generates custom graphic biorhythm.

MM.COM: Master Mind.

WUMPUS.COM: Classic wumpus hunting.

ADVENTURE.COM: This is the famous 550 point super version of Adventure. There isn't room on one disk for this program and all the data files (the cave is huge) so the data files are on Disk M4.

Morrow Disk M4
Adventure Data & Aliens

ADVT.DAT: This disk contains the data files for the 550 point Adventure (the latest, greatest, most cussed version ever devised by half-mortals). You must have both M3 and M4 to play Adventure.

ALIENS: This is the game that made arcades famous. Keep this one hidden from the younger set or you won't get to play Adventure.

Morrow Disk M5
MX-80 Graphics

A complete Epson MX-80 graphics printer package including example files. Same as M6 except for MX-80 (or compatible) printers.

Morrow Disk M6
Prowriter Graphics

This is a complete Prowriter printer graphics package written by the same Micro C subscriber who wrote the MX-80 graphics package. Plot points, lines, circles, boxes, and more. Examples, documentation, and more.

Morrow Disk M7
Small C Version 2 Compiler

This is a greatly extended version of Ron Cain's Small C compiler. Version 2 has more expressions and larger library, true subset of Unix C. Disk contains compiler, documentation, and library —everything you need.

Morrow Disk M8
Small C Version 2 Source

This disk contains the source (written in Small C) of the Small C version 2 compiler. Get M8 if you want to try extending the compiler. (You must have M7.)

Morrow Disk M9
ZCPR

ZCPR: The big news on this disk is the self-installing version ZCPR available only from Micro C. Once you have ZCPR in your CP/M, you'll never go back to straight CP/M! For instance, ZCPR searches drive A for any program not found on drive B, so, even an empty disk in drive B appears to contain every program on A. It's great for text editors, compilers, etc. Plus many more new features to make CP/M easier to live with. In fact, Digital Research incorporated many features of ZCPR into CP/M 3.0.

EX14: a super replacement for SUBMIT.

Morrow Disk M10
Assemblers

We've received a lot of requests for a Z80 assembler. So Dana put in some long hours getting the Crowe Z80 assembler to run on the Morrow (and every other Z80 machine).

CROWECPM: This is a first class Z80 assembler. We use this assembler daily (and we included its source). Takes standard Zilog mnemonics.

LASM: This is a more powerful version of the ASM assembler you received with the Morrow. This will link multiple programs together at assembly time.

PRINTPRN: This program makes it easy to print the listing files generated by the Crowe assembler.

Morrow Disk M11
Library & Checkbook Programs

CHECKS: This has been a very popular group of programs. Categorizes checks so you can keep track which are tax deductible and which get charged to which projects. Includes source and excellent example check files. Very powerful.

LIBR: This is a complete set of library routines which let you group files into a single file called a library. Then CP/M sees them as a single program, but with the library routines, you can list them out separately, run them separately, or divide them up again. Almost like a unix environment.

Morrow Disk M12
Pascal Compiler

This is a real Pascal compiler. It supports only a subset of the language (no records, pointers, booleans, reals or complex) but it generates a real .COM file. Everything is on this disk: the compiler, its source, example programs and documentation.

Morrow Disk M13
Z80 Tools

This is for those of you who are into Z80 assembly language.

XLATE.COM: A very good 8080 to Z80 translation routine.

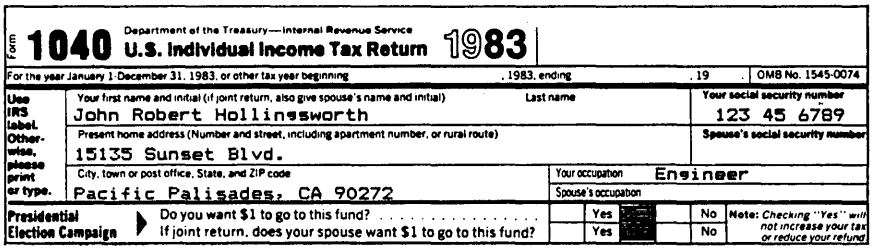
DASM.COM: An easier to use version of ZZSOURCE (the Z80 disassembler). This full disk includes source and documentation for both routines.

NEW!

Morrow Disk M14
Z80 Macro Assembler

This is a real Z80 macro assembler! Syntax closely follows RMACK and MAC. Also includes pseudo-ops to support conditional assembly, etc. No phase or relocatable code.

HOLLINGSWORTH BUSINESS SERVICES



Form **1040** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1983**

For the year January 1-December 31, 1983, or other tax year beginning , 1983, ending , 19 OMB No. 1545-0074

Use IRS label. Otherwise, please print or type.

Your first name and initial (if joint return, also give spouse's name and initial) John Robert Hollingsworth

Last name

Your social security number 123 45 6789

Present home address (Number and street, including apartment number, or rural route) 15135 Sunset Blvd.

Spouse's social security number

City, town or post office, State, and ZIP code Pacific Palisades, CA 90272

Your occupation Engineer

Spouse's occupation

Presidential Election Campaign ▶ Do you want $1 to go to this fund? Yes No Note: Checking "Yes" will not increase your tax or reduce your refund

If joint return, does your spouse want $1 to go to this fund? Yes No

INCOME TAX SOFTWARE FOR THE MORROW MICRO DECISION

$25 Demo Program Includes

* Federal 1040, Schedule A, B, W.
* California 540, A, and B.
* Diskette, 40 page manual.
* Sample printouts.
* plastic overlays of all tax forms for use with any printer.

Many of you may have seen my ad in the last issue for the income tax software. From the response I can see that there is a lot of interest for this application. Many of you called with similar questions:

How does the program operate?

You select the tax form from a menu. The tax information is entered on the screen in a format similar to the layout on the tax form. After filling in the answers on the screen a Calculate step does all the additions, transfers totals between forms, and calculates the tax.

What about printing?

If you have a friction feed printer you can print right on the official forms. However, the easiest method is to print continuously on blank tractor feed paper and then xerox with plastic overlays of the official forms which are provided with the program.

How about editing and making changes?

Ease of editing was one the prime objectives of the program. The program supports the word processing style of cursor control (control-S control-D control-E control-X) and on most terminals the cursor arrow keys. Cursor-up moves to the prior question. Cursor-down or the return key can be used to advance to the next question. The left and right cursor keys are used to edit a line.

What forms will next year's program include? And How much?

The form requirements seem to vary with everyone I talk to. At the moment it looks like the following forms will be available for next year.

Level I is for the user who will be preparing just a few returns. It will include Federal 1040, A, B, D, G, W, and California 540, A, B, D, G, and H.
Price: $100 with California.
$75 Federal only.

Level II is for the professional preparer and will include Level I tax forms plus Federal C, E, SE, ES, 2210, 2441, 4562, and California C, ES, 3805X, 3885, and 5805.
Price: $500 with California.
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John Hollingsworth

Call or write:

15135 SUNSET BLVD., SUITE 210, PACIFIC PALISADES, CALIFORNIA 90272
(213) 459-3190

PROPORTIONAL SPACING WITH WORDSTAR

by Karl Fuss

If you look through your WordStar manual very carefully you'll find lots of information about micro-justification, but not a single word about proportional spacing. The fact is that WordStar can do both simultaneously; and with an appropriate print wheel the result is very close to typeset copy!

Calling up this feature is simply a matter of typing ^P^P at any point in a file where you want proportional printing, and ^P^P again, to turn it off. It's a toggle, just like ^P^S for underlining. Try it, printing a short file, and you'll see that some letters take up less space (i, for instance) and some take more (m), but chances are that the result won't look at all right. This is because the spacing table in WordStar doesn't "fit" your print wheel.

Why is this feature "undocumented"? Probably because a different spacing table would be needed for each of the dozens of proportional print wheels available for all the brands of printers on the market. Imagine the problems involved in covering all that in the manual!

For now we'll cover just one print wheel -- the "Modern PS" wheel which is available for the Morrow printers (and Transtar, Silver-Reed and Seiko). We'll give a suggested spacing table (the one this article is printed with), and show how to install it in WordStar. The lower-case letters on this wheel are generally a little smaller than those on the standard Courier 10-pitch wheel, so it's best to use either 11-pitch (.cw11) or 12-pitch (.cw10 or ^P^A), which is WordStar's default alternate pitch.

INSTALLATION

Let's start by taking a look at the spacing table given here. The first column, labeled 3.0, lists the locations in WordStar Version 3.0 or 3.1, which is the one most people have. The second column lists the locations for the new 3.3 Version. Then the ASCII characters are listed, along with the old values and the suggested new values. If you're not quite sure which version of WordStar you have, you'll find it listed in the sign-on message. Hint: If you call up a file along with WordStar (A>ws filename [return]) the message will stay on the screen longer.

The table has a lot of numbers, but don't give up yet. The good news is that we only have to enter the numbers in the "New" column into WordStar. That's almost 100 entries --a dull and te-

SPACING TABLE FOR THE MODERN PS WHEEL

3.0	3.3	CHR	OLD	NEW	3.0	3.3	CHR	OLD	NEW
07D8	07BA		52	42	0808	07EA	P	54	44
---9	---B	!	43	33	---9	---B	Q	56	45
---A	---C	"	44	34	---A	---C	R	56	45
---B	---D	#	54	44	---B	---D	S	54	44
---C	---E	$	54	44	---C	---E	T	55	45
---D	---F	%	56	46	---D	---F	U	56	45
---E	07C0	&	56	46	---E	07F0	V	56	45
---F	---1	'	32	32	---F	---1	W	67	56
07E0	---2	(	43	33	0810	---2	X	56	45
---1	---3	)	43	33	---1	---3	Y	56	45
---2	---4	*	54	44	---2	---4	Z	56	44
---3	---5	+	54	44	---3	---5	[	54	44
---4	---6	,	42	32	---4	---6	\	56	46
---5	---7	-	54	44	---5	---7	]	54	44
---6	---8	.	32	32	---6	---8	^	56	44
---7	---9	/	53	43	---7	---9	_	55	43
---8	---A	0	54	44	---8	---A	`	54	44
---9	---B	1	54	44	---9	---B	a	54	43
---A	---C	2	54	44	---A	---C	b	54	44
---B	---D	3	54	44	---B	---D	c	54	43
---C	---E	4	54	44	---C	---E	d	54	44
---D	---F	5	54	44	---D	---F	e	54	43
---E	07D0	6	54	44	---E	0800	f	53	42
---F	---1	7	54	44	---F	---1	g	54	44
07F0	---2	8	54	44	0820	---2	h	54	44
---1	---3	9	54	44	---1	---3	i	52	41
---2	---4	:	43	33	---2	---4	j	52	42
---3	---5	;	42	32	---3	---5	k	54	44
---4	---6	<	54	44	---4	---6	l	52	42
---5	---7	=	54	55	---5	---7	m	66	55
---6	---8	>	54	44	---6	---8	n	54	44
---7	---9	?	54	44	---7	---9	o	54	43
---8	---A	@	56	46	---8	---A	p	54	44
---9	---B	A	55	45	---9	---B	q	54	44
---A	---C	B	55	45	---A	---C	r	53	43
---B	---D	C	55	45	---B	---D	s	53	43
---C	---E	D	56	45	---C	---E	t	53	42
---D	---F	E	55	44	---D	---F	u	54	44
---E	07E0	F	55	44	---E	0810	v	54	44
---F	---1	G	56	45	---F	---1	w	66	55
0800	---2	H	56	45	0830	---2	x	54	44
---1	---3	I	53	42	---1	---3	y	54	44
---2	---4	J	53	43	---2	---4	z	54	43
---3	---5	K	56	45	---3	---5	{	54	44
---4	---6	L	55	44	---4	---6	|	56	46
---5	---7	M	66	55	---5	---7	}	54	44
---6	---8	N	56	45	---6	---8	~	56	46
---7	---9	O	56	45	---7	---9		55	42

dious task, but it's a lot easier than entering most Basic programs.

We'll read the WS.COM file into memory, look at a listing of the memory contents on the screen, change the values in memory, and then write the new version back onto our disk. This way there's no danger of messing up our original copy of the program.

To do this we can either use DDT.COM, which is provided along with the CP/M utilities, or INSTWS.COM on a copy of the WordStar 3.0 distribution disk (WINSTALL.COM if you have version 3.3). DDT is a little faster and easier to use, and lets us view the whole table at once if we want to check the accuracy of our entries, so let's concentrate on that.

First, copy DDT.COM from the CP/M disk onto a WordStar working disk. Make sure there's still enough room on the disk to make a second copy of WS.COM. 20K should be enough. Next, type in what's shown here in boldface:

A>**ddt ws.com** [return]

If you have version 3.0 of WordStar you'll see

```
DDT VERS 2.2
NEXT  PC
3F00 0100          (Vers. 3.3 will say 4600)
-
```

The "-" is DDT's prompt, so next we'll ask DDT to display the section of WordStar which contains the spacing table. Since it will be helpful to have a print-out of the table, we can turn on the printer and type ^P. (^P won't appear on the screen.) Then type

-D07D0 [return] (D07B0 for Vers. 3.3)

Now 12 lines of numbers and letters will appear. Our table begins with the "52" in the first line. When the next "-" prompt appears we can begin entering the changes to the table by typing

-S07D8 [return] (S07BA for Vers. 3.3)

DDT will show the location and the old value, and wait for us to enter a new value. In this case, following our suggested new table, we'll enter **42**, then press Return. The next location will then be shown, and we can make the next entry. Any time we make a mistake we can back-track by typing a period (.), then Return. This will bring back the "-" prompt and we can enter S, followed by the location with the bad entry and proceed as before.

When the end of the table is reached, type a period and a Return. Then we can get a print-out of the new table by again typing

-D07D0 [return] (D07B0 for Vers. 3.3)

Exit DDT by typing ^C at the "-" prompt.

Now we can save the new version of WordStar by typing

A>**save 62 wsp.com** [return]

or, if we're working with Version 3.3,

A>**save 69 wsp.com** [return]

Now the disk will contain both the old WS.COM and the new WSP.COM. Call up WSP (A>wsp [return]) and try printing a file with the new table. Remember to add a line with **.cw11** or **.cw10** at the beginning of the file, and ^P^P to the first line.

The new table will **not** affect the normal non-proportional printing, so we don't need two versions on the disk. If you like the results of the new table you can erase WS.COM and rename WSP.COM:

A>**era ws.com** [return]
A>**ren ws.com = wsp.com** [return]

Incidentally, even though it's not a proportional font, the Courier 10-pitch wheel which is provided with most printers can yield better looking and easier-to-read copy printed proportionally with an appropriate spacing table. Try setting all the upper-case letters except (I) and (J) to 54. Set (I) to 52 and (J) to 53. Most of the lower-case letters should also be set to 54. The exceptions are (i) and (l), which can be set to 52; and (f), (j), (s) and (t), which look good to me set at 53.

If you experiment with values different from those given here for both the Modern PS and the Courier wheels, you'll find that the two-place numbers in the table don't behave as if they were normal hexadecimal numbers. For instance, 45 and 54 will seem to give almost identical results. The total amount of space allocated to a character seems to be related to the decimal total of the two numbers, while the left-to-right placement of the character within its space seems (sometimes) to be related to the individual numbers. Thus, a value of 35 would place the character closer to its neighbor to the left than would a value of 53, even though the total space allotted is the same. Maybe someone out there has an explanation for how these strange numbers actually work.

Finally, if you want to use WordStar's installation program (INSTWS.COM for Version 3.0 or WINSTALL.COM for Version 3.3) the label PSTAB will take you to the beginning of the table. You can access the patching portion of 3.3's WINSTALL.COM by typing a plus sign (+) as your "choice" at the main menu.

PATCHING WORDSTAR FOR AN EPSON PRINTER

by Murray Schechter

In the first edition of MORROW OWNERS' REVIEW David Block called for articles on patching WordStar for a particular printer. In response I offer this account of my adventures with with an EPSON RX-80. According to the printer manual all relevant codes are the same on the other EPSON printers, so the same patching procedure ought to work.

The EPSON printer has more printing modes than WordStar has patching areas so it seems that no one installation of WordStar can utilize all the features of the printer. Using the INSTWS program I installed these modes: compressed expanded, italics, superscript and subscript. You might very well be content with this selection and choose to stop at this point, but if you want to get a little more versatility in your printing, by doing some further patching with DDT you can choose at print time to print the whole document in elite mode, instruct WordStar to interpret a particular pair of print control characters as either expanded on and expanded off or emphasized on and emphasized off.

Here's the description of how to do these wonderful things. Beginning with the part using INSTWS.

Let's suppose you've gotten through the MENU part of INSTWS and have informed it that you're installing a teletype-like printer that can BACKSPACE with no communications protocol and that you're using the CP/M list device as the driver. Now INSTWS asks you if the modifications to WORDSTAR are complete. You answer "N" and it asks you what value you want to change. Now you start patching. I'll describe the first patch in excruciating detail. You're going to patch the code for the expanded mode in the patch area called USR1. (The result of this is that the code Ctrl-P, Ctrl-Q in your document will initiate printing in the expanded mode). From the printer manual you learn that the character string for turning on the expanded mode is <ESC> MO. Translating this into HEX code gives 1B, 57, 31. In response to the prompt LOCATION TO BE CHANGED you answer USR1: (remember the colon). INSTWS then asks you what value you want to put into the location USR1 and you reply 3 because you've got a 3 byte string to put in. Press the carriage return key twice and INSTWS asks you what value you want to put into the next location USR1+0001. You tell it 1B. Similarly for USR1+0002 you give it the value 57 and for USR1+0003 the value 31. This completes the patching of USR1. Now press the carriage return key once, and in response to the question about what location to change answer USR2:. The following table describes all needed changes.

PATCH	STRING (HEX)	MODE	WS-CMD
USR1	3, 1B, 57, 31	Expanded on	^Q
USR2	3, 1B, 57, 30	Expanded off	^W
USR3	2, 1B, 34	Italics on	^E
USR4	2, 1B, 35	Italics off	^R
PALT	1, OF	Compressed on	^A
PSTD	1, 12	Compressed off	^N
RIBBON	3, 1B, 53, 31	Subscript on	^Y
RIBOFF	2, 1B, 54	Subscript off	^Y
ROLUP	3, 1B, 53, 30	Superscript on	^T
ROLDOW	2, 1B, 54	Superscript off	^T
PSINIT	1, OD, 1B, 40, 1B, 4D	(See MORPAT)	

The rightmost column contains the codes you use in your document to enter or exit from each printing mode. The symbol ^ represents the ctrl key. Each of these codes must be preceded by ^P while editing in WordStar. If you forget this with ^Y you could be in big trouble.

Now exit from INSTWS by telling it to change location 0. Confirm your choices (Y). You are back in CP/M with a version of WordStar with all the above print modes implemented. You might be perfectly happy with this installation of WordStar; however if you want more read on.

The rest of the patching job is done through DDT. It helps if yoy know DDT. Also, this will look strange to you if you don't know 8080 assembly language. Don't worry, it'll work anyway.

The way this patch works is as follows: WORDSTAR has a location called PSINIT which sends a string to the printer when printing is initiated. The default string is a carriage return. You have already modified this string so that it consists of a CR, the two-byte "master reset code" and the two byte elite mode code. WordStar contains a subroutine at location PRINIT which is called before the string PSINIT is sent. This subroutine does exactly nothing unless you instruct it to do something. Now you're going to instruct it to jump to a location called MORPAT, where you have the room to insert a program which first asks you whether you want to print in elite mode or not. If you answer "Y" it will instruct PSINIT to be ready to send 5 bytes when its time comes, otherwise 3. The program you insert will then ask you whether you want expanded or emphasized mode and, in printing, will interpret ^Q and ^W accordingly. During editing you better remember your choice!

Suppose you've called DDT and your installed WordStar file into memory. Use the A command to enter the instruction JMP 02E0 into location 070D, which is PRINIT. Starting at 02E0, which is MORPAT, use the A command to enter the following program:

```
02E0   MVI  C,09          030C  MVI  C,01
02E2   LXI  D,034C        030E  CALL 0005
02E5   CALL 0005          0311  CPI  4E
02E8   MVI  C,01          0313  RZ
02EA   CALL 0005          0314  CPI  6E
02ED   CPI  4E            0316  RZ
02EF   JZ   02FF          0317  MVI  A,02
02F2   CPI  6E            0319  STA  06C9
02F4   JZ   02FF          031C  STA  06CE
02F7   MVI  A,05          031F  MVI  A,1B
02F9   STA  06E7          0321  STA  06CA
02FC   JMP  0304          0324  STA  06CF
02FF   MVI  A,03          0327  MVI  A,45
0301   STA  06E7          0329  STA  06CB
0304   MVI  C,09          032C  MVI  A,46
0306   LXI  D,0332        032E  STA  06D0
0309   CALL 0005          0331  RET
```

Now you have to enter the "prompt strings," namely, the string 'Expnded or emphasized? (Y/N)$Elite? (Y/N)$'. (This spelling is designed to save bytes.) DDT requires that you enter the ASCII codes, so starting at 0332 use the S command to enter the following string:

45, 78, 70, 6E, 64, 20, 74, 6F, 20, 65, 6D, 70, 68, 61, 73, 69, 7A, 65, 3F, 20, 28, 59, 2F, 4E, 29, 24, 0D, 0A, 45, 6C, 69, 74, 65, 3F, 20, 28, 59, 2F, 4E, 29, 20, 24

Finally, you have to save your newly patched WORDSTAR. Use Ctrl-c to exit from DDT and SAVE your file; 64 pages is adequate for this so you might enter, for example, SAVE 64 WSNEW.COM. You've now completed the job.

Many arbitrary choices were made in the installation you've just completed; for instance, I find emphasized mode more useful than double weight mode but you might not. You might be willing to give up sub- or superscript mode in favor of something else. I invite you to modify the above according to taste.

INSTALLING WORDSTAR 3.0 FOR THE MP100

by Richard O. Marwin

Although all the instructions for installing WordStar are someplace among the manuals supplied with the Morrow computer and software, I would have given my eyeteeth for a simplified, step by step outline for doing it when I first got my computer. For the first few months of ownership, although WordStar would work, it lacked all the special printing features. The following outline is specifically for the MD3 computer, the Freedom 100 (Morrow 50) terminal and the MP100 daisy wheel printer (which came with my machine).

The manual for the monitor contains a slip sheet showing how to set the many switches on the back to emulate the ADM-31 terminal. Do so.

Take the cover off the top of the MP100:at the right, behind the control buttons, is a small row of slide switches. Make sure all of them are UP toward the top of the printer (OFF).

For new users of a disk-operated computer system I recommend placing a "write protect" tab over the notch on the side of all distribution diskettes before ever putting them in the machine. (This was learned the hard way!)

In the following list, WordStar prompts are abbreviated to a few key words just so you'll know where you are. Your computer entries are underlined. As usual, <CR> means to press Return.

Step by Step Installation of WordStar 3.0 for the MD3 - MP100.

1. Format a new disk.
   a. Place a working copy of your System disk in drive A.
   b. Place a raw, new disk in drive B.
   c. Press the computer reset button - you should either get a menu or the A> prompt. If A> then type AUTO PILOT CPMENU <CR>. Then press Reset again and you should get the menu.
   d. Type C then A. (Drive A).
   e. Type U. (Gets Utility Menu).
   f. Type 5. (Format).
   g. Type 1. (If you get "disk error --" type A).
   h. "Drive to use", B then D.
   i. Type <CR>. You may get the A> prompt.

2. Sysgen the new disk.
   a. Press the computer Reset to get menu again.
   b. As in section 1. your entries in sequence are: U, CA, 5, 2, (any key), A, B <CR>, <CR>.

3. Copy files onto new disk.
   a. Type ESC key as often as necessary to get the A> prompt.

b. Type each of the following, allowing time after each for the computer to do its thing: PIP B:=A:PIP.COM
PIP B:=A:STAT.COM
PIP B:=A:SETUP.COM
PIP B:=A:AUTO.COM

4. Remove the System disk from drive A and move the new disk from drive B to drive A. Press the computer Reset button and you should get an A> prompt.

5. Insert the WordStar distribution diskette (write protected) into drive B.

6. Copy WordStar onto new disk.
   a. Type: PIP A:=B:*.* (This will copy everything).
   b. Remove the distribution diskette and file in a safe place.

7. Install WordStar. (Have WSU.COM on your disk!)
   a. Type: INSTWS <CR>
   b. "-- first-time INSTALLation --?"; Y
   c. "Ok"; Y
   d. Terminal Menu; C (for Freedom 100)
   e. "Ok"; Y
   f. Printer Menu; D (for MP100)
   g. "Ok"; Y
   h. Protocol Menu; N
   i. "OK"; Y
   j. Driver Menu; L
   k. "Ok"; Y
   l. Complete ?; Y
   m. Confirm ?; Y

8. WordStar is now installed for the MD3, Freedom 100 terminal and MP100 printer.

9. Press the computer Reset button, see A>.

10. Type: AUTO WS <CR> (WordStar will now come up automatically when you first start the computer with this disk.)

11. Press the computer Reset button and the WordStar program should come up ready to use with all the bells and whistles on the printer such as superscripts, subscripts and microjustification. To verify this, ready the printer, Type: P, Type: EXAMPLE.TXT <ESC> . The printed text on several pages will show you most of the features.

12. Now apply a write protect tab to this WordStar working disk. A convenient way to use WordStar is to only use this disk for operating and put all files on a second disk in drive B. When WordStar first comes up, simply type LB <CR>. This will "log" drive B as the file disk and will display the B drive directory.

13. For safety's sake, make a copy of the installed WordStar by placing a formatted system disk (see steps 1 and 2) into drive B, return to the system by typing X and type: PIP B:=A:*.* (after the A> prompt).

14. Note: I find it very handy to also PIP the entire Correct-It disk onto this working disk to avoid disk swapping when editing text.

Huber/Süddeutsche Zeitung/Munich

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Yes! Tell me how to protect my computer.

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WORDSTAR PATCHES FOR THE OKIDATA PRINTER

by Steve Heffelfinger

There's nothing more frustrating than having a "full-featured" printer and not knowing how to use those features! I've experienced that frustration. It took me almost a week of late night trouble-shooting to properly customize WordStar for my Okidata 92. But during those 7 l-o-n-g evening and early morning sessions, I gained a considerable amount of insight into the workings of both my printer and my word processing package. It's this insight that should save you the extended hair-pulling sessions that periodically threatened my sanity.

These are the features, along with the associated WordStar control sequences, that I have implemented in my customization:

PATCH	STRING (HEX)	MODE	WS-CMD
PSINIT:	01 18	Reset at start of print	
PALT:	01 1C	12 cpi	^PA
PSTD:	01 1E	10 cpi (default)	^PN
ROLUP:	02 1B 4A	superscript ***	^PT
ROLDOW:	02 1B 4C	subscript ***	^PV
USR1:	02 1B 31	corresp. quality	^PQ
USR2:	01 1F	double wide	^PW
USR3:	02 1B 30	data processing	^PE
USR4:	01 1D	17 cpi	^PR
RIBBON:	02 1B 43	start underline ***	^PY
RIBOFF:	02 1B 44	stop underline ***	^PY
PSFINI:	01 18	Reset at end of printing	

*** These are toggle commands: ^Tsuper^T script.

TABLE 1.

The symbolic location name (PATCH) merely tells WordStar where you want to insert the command string (STRING (HEX)); the colon is required! The first byte in each command string indicates how many bytes follow.

Although it's possible to do so with the CP/M utility DDT, these patches are much more easily installed by using WordStar's built-in patcher. The following series of steps should take no more than 30 minutes to complete. (The instructions assume only a rudimentary knowledge of WordStar and the installation process. If you are an "old hand" and only need to know what the patches are, you can probably jump directly to the listing that follows Step 10.)

Assuming that you want to modify your current working copy of WS.COM, here is what you do:

1. Ensure that you have INSTWS.COM on your Wordstar working diskette. (If you don't, copy this file from your distribution diskette.)

2. Type "INSTWS" (don't type the quotes).

3. "Normal first time WordStar installation?" Answer with "N".

4. Installation Menu. Choose "B".

5. INSTWS ask for file to be installed (input file): WS.COM and filename for saving the result (output file): WSX.COM (or any name you like).

6. Terminal menu. Already done. Say "U".

7. Printer Menu. Select "A".

8. Communications protocol. Select "X", but then your internal Okidata printer switch should be set to "DEC Duplex Protocol". Otherwise try "N".

9. Driver Menu. Select "L" for LST: device.

10. "Are modifications for WordStar now complete?" Answer with "N".

You have now "dropped into" WordStar's patcher. To finish up the customization, just type in the entries that are in bold in the following listing:

```
LOCATION TO BE CHANGED  (0=END): PSINIT: (CR)
  ADDRESS: 06E7H    OLD VALUE:     NEW VALUE: 01
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): PSINIT+0001
  ADDRESS: 06E8H    OLD VALUE:     NEW VALUE: 18
(CR)
LOCATION TO BE CHANGED  (0=END): PALT: (CR)
  ADDRESS: 06B5H    OLD VALUE:     NEW VALUE: 01
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): PALT+0001
  ADDRESS: 06B6H    OLD VALUE:     NEW VALUE: 1C
(CR)
LOCATION TO BE CHANGED  (0=END): PSTD: (CR)
  ADDRESS: 06BAH    OLD VALUE:     NEW VALUE: 01
(CR)(CR)
```

Get the idea? Now refer to Table 1 again and load the rest of the bytes at the appropriate labels. Get your printer manual out and check the

byte strings. This will help you understand what is going on and you are ready to make modifications of your own.

Your patching project ends like this:

```
LOCATION TO BE CHANGED  (0=END): USR4: (CR)
  ADDRESS: 06D8H    OLD VALUE:     NEW VALUE: 01
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): USR4+001
  ADDRESS: 06D9H    OLD VALUE:     NEW VALUE: 1D
(CR)
LOCATION TO BE CHANGED  (0=END): RIBBON: (CR)
  ADDRESS: 06DDH    OLD VALUE:     NEW VALUE: 02
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): RIBBON+001
  ADDRESS: 06DEH    OLD VALUE:     NEW VALUE: 1B
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): RIBBON+002
  ADDRESS: 06DFH    OLD VALUE:     NEW VALUE: 43
(CR)
LOCATION TO BE CHANGED  (0=END): RIBOFF: (CR)
  ADDRESS: 06E2H    OLD VALUE:     NEW VALUE: 02
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): RIBOFF+001
  ADDRESS: 06E3H    OLD VALUE:     NEW VALUE: 1B
(CR)(CR)
LOCATION TO BE CHANGED  (0=END): RIBOFF+002
  ADDRESS: 06E4H    OLD VALUE:     NEW VALUE: 44
(CR)
LOCATION TO BE CHANGED  (0=END): 0 (CR)
```

Type "Y" in response to the "Are all mods complete?" prompt, and "Y" once again to confirm the installation. You will then be returned to the familiar "A>" CP/M prompt. In order to run your newly customized WordStar, type in the second file name (output file) that you assigned in Step 5.

My next article will contain instructions on how to make changes in the WordStar menus. In this way, you can incorporate all of the patches we have just made as descriptive entries on the Print Menu. If you can't wait until the next issue for the menu patches or if you have other technical questions about the Oki 92/93 features, either send me a stamped self-addressed business sized envelope or give me a call between 5:00 pm and 10:00 pm Pacific time. My address is 2406 Alvin St., Mtn View, CA 94043. My telephone number is (415) 969-1422. Good luck!

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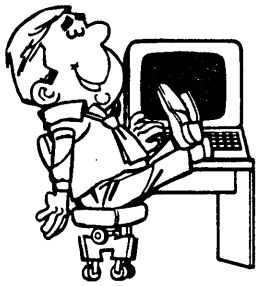

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USING BASIC TO CONTROL YOUR PRINTER

by Gary J. Balius

The MD3 has two serial ports and a single parallel port. Since one of the serial ports is used for the monitor, a serial and a parallel port are available for printer output. When a serial printer was connected to the MD3 at the time of original installation, the WordStar programs would immediately print. Since it was the first complete computer system that the writer had ever owned, the first printed output was a very satisfying experience. But, the printer happened to be a daisy-wheel that printed at about 10 - 14 cps. Ribbons for the printer also cost about $4.50 each and one ribbon could print no more than 40 - 50 pages. Obviously, this arrangement produced some rather expensive copy.

Cost of operating this serial printer was excessive, but the rather slow speed was also a major reason for seeking another printer. Since the printer functions very well as a stand-alone high quality typewriter, it remains in the author's inventory of hardware. Four other members of the family also use this typewriter printer for personal correspondence and school assignments.

Since a parallel printer was available on a loan basis from a friend, the author decided to use it in a wordprocessing application. Although the printer is dot-matrix, it prints at 120 cps and produces a dense legible copy which is just right for rough draft output; for final copy of letter quality correspondence, the serial daisy-wheel printer can still be used.

After purchasing a standard Centronics cable and after proper hook-up of the printer to the parallel port, there was no output to the printer. The reason became obvious after a short while and also after a phone call to the vendor--selection of the printer port is based on a software program that is supplied with the MD3. This program is called SETUP and is available on the original systems diskette provided with the computer. This program can also be copied to working disks just like any other program. The Morrow manuals (which by the way are some of the best written manuals available today for any microcomputer system) will guide any user in the proper selection of printer ports.

After correct installation of the parallel printer there was one very important change that had to be made. This change was the selection of 12 pitch (12 characters per inch) since the printer was factory-set to 10 pitch. (On the serial printer mentioned above the selection of pitch was made via a sliding switch on the printer console; the operator could choose 10, 12 or 15 pitch simply by sliding the switch to a specific setting. Different type styles could also be used by simply changing the daisy-wheel.)

The parallel printer operating manual listed in an appendix the character string values that could be used in a user-written BASIC program to change the pitch. In the table that follows the character string values (CHR$(x)) are listed with the pitch desired:

TABLE FOR PITCH

CHR$(27);CHR$(78)	10 PITCH
CHR$(27);CHR$(69)	12 PITCH
CHR$(27);CHR$(81)	17 PITCH

The next steps involve writing a short BASIC (MBASIC) program using the character string values to select a specific pitch. These steps are as follows:

1. Using a disk on which the MBASIC file has been copied, boot-up the system and after the system prompt, A>, enter:
   MBASIC <CR>

2. After MBASIC has been brought up and the ok prompt is displayed, enter ONLY ONE of the following program lines for the pitch desired:

   for 10 pitch enter the following line:

   ```
   10 LPRINT CHR$(27);CHR$(78)
   ```

   for 12 pitch enter the following line:

   ```
   10 LPRINT CHR$(27);CHR$(69)
   ```

   for 17 pitch enter the following line:

   ```
   10 LPRINT CHR$(27);CHR$(81)
   ```

   Follow with a <CR>.

3. After the single line selected above is entered, then enter the following line:

   ```
   20 SYSTEM          <CR>
   ```

4. The last line of the program to enter is the following:

30 END <CR>

5. Then enter a CTRL C to leave the indirect program mode of MBASIC.

6. To save the program enter the following:

   SAVE "PITCH" <== yes, type the " <CR>

7. To return to the CP/M operating system enter: SYSTEM <CR>
   this entry will return to the operating system as evidenced by the prompt A>.

8. By this time, assuming success, you have entered the PITCH progam and saved it for future operation to set the pitch on the printer. The program PITCH can now be run in any one of the following ways (in order to set pitch you must run the program).

   The first and fastest way to run the program is as follows:

   1. Turn the printer on and be sure that it has been properly selected in the SETUP program.

   2. Boot-up the system using the disk on which both the MBASIC and PITCH programs are located. At the operating system prompt A> enter:

      MBASIC PITCH <CR>

   3. This program should run in a few seconds, set the selected pitch and return to the operating system.

   The second way to run the program is as follows:

   1. Turn the printer on and be sure that it has been properly selected in the SETUP program.

   2. Boot-up the system using the disc on which both the MBASIC and PITCH programs are located. At the operating system prompt A> enter:

      MBASIC <CR>

   3. When the ok prompt is displayed enter: LOAD "PITCH" <==yes, type the "
      <CR>

   4. After the program has loaded, then enter: RUN <CR>

   5. After the program has been executed the monitor will display the system

      prompt A>.

An automatic program is also available by which the printer pitch can be set upon booting-up the computer; this procedure is as follows:

1. Turn the printer on and be sure that it has been properly selected by the SETUP program.

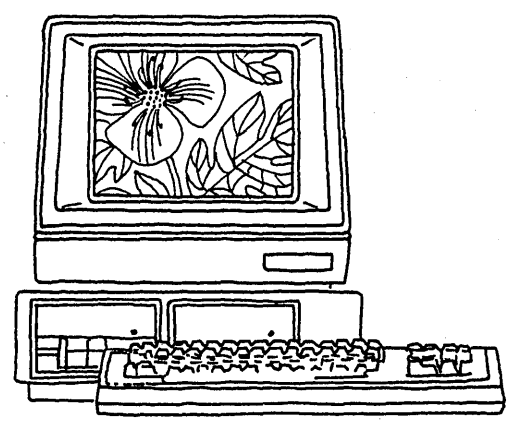
2. Use a disk on which MBASIC, PITCH, and AUTO have been copied; boot-up the system and after the A> prompt enter:

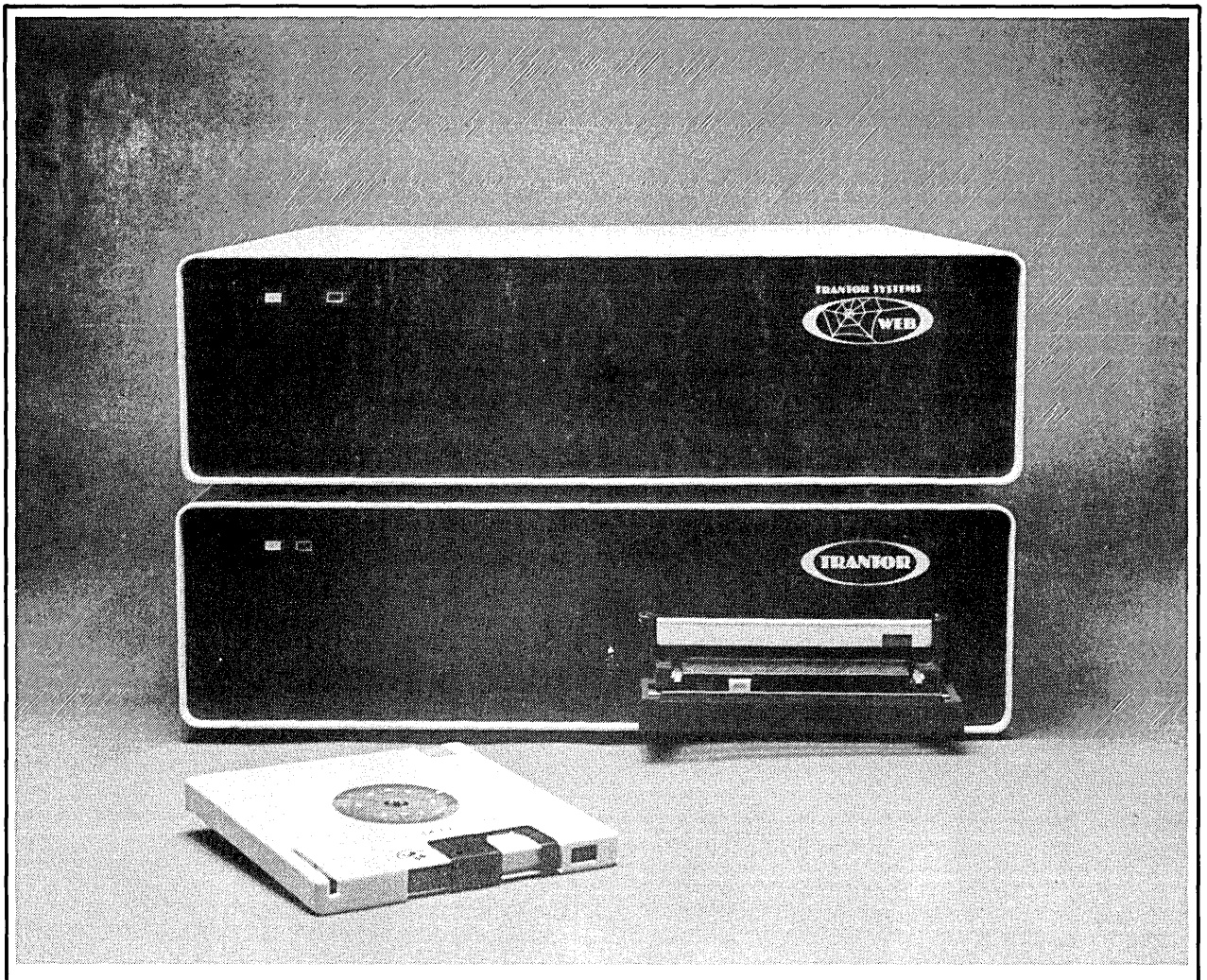
   AUTO MBASIC PITCH <CR>

3. Activate the RESET button to perform a cold boot; the system will now automatically run the PITCH program, set the selected pitch and return to the operating system displaying the system prompt A>.

4. BEWARE!!!!! Whenever this disk is used it will always automatically go through the entire process described in 3 immediately above. To cancel this automatic feature on this disk enter the following command after A> prompt: AUTO <CR>

CAUTION: The above instructions apply only to a specific parallel printer as it is operated with an MD3 computer. The specific printer involved is the C. ITOH PRO-Writer Model 8510ACD, a dot-matrix printer operating at 120 cps. In using any other printer with any other computer, the operator should become very familiar with all operating instructions and operating parameters in order to make the proper selections for desired output.





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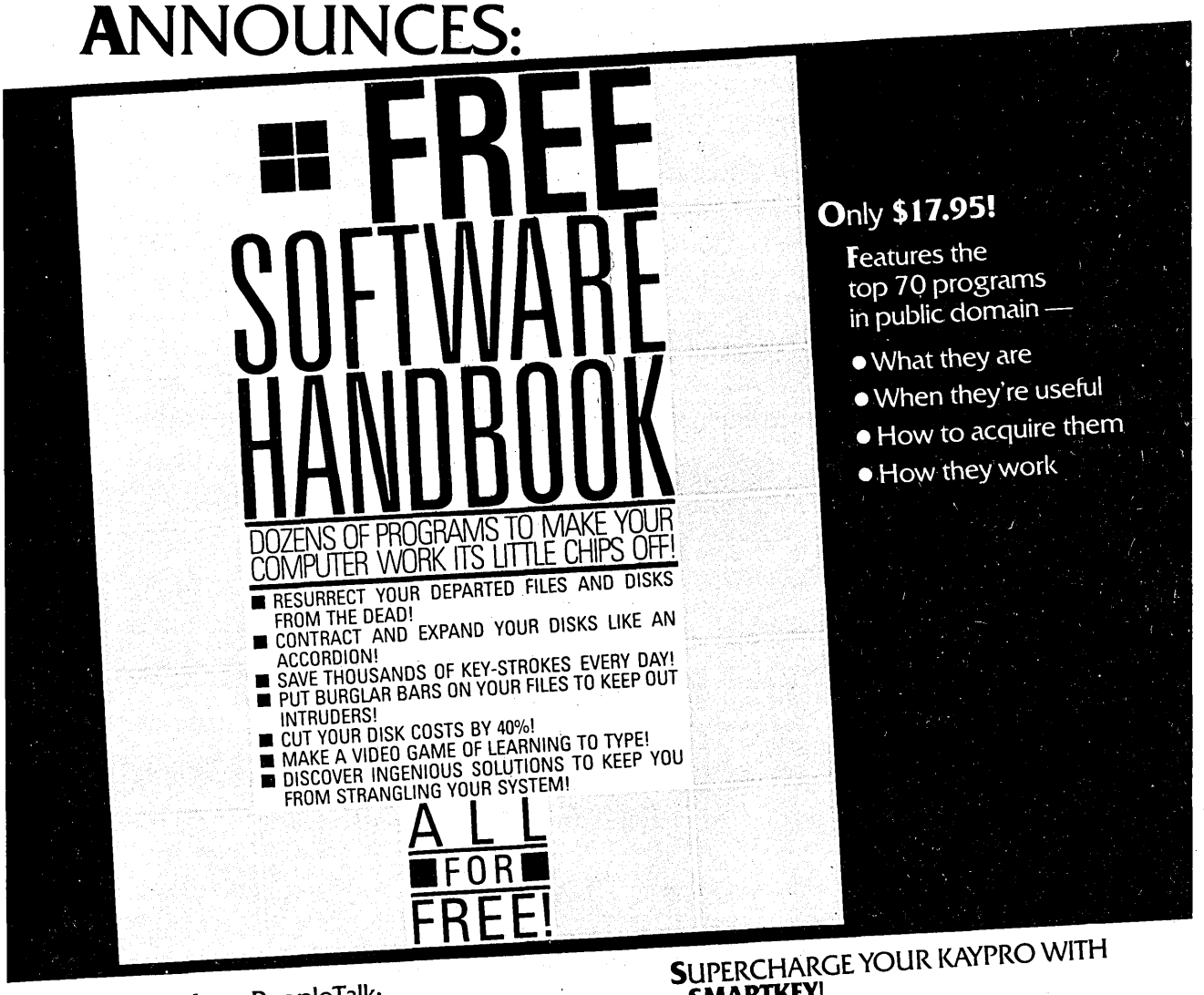
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NEW QUEST ACCOUNTANT PROGRAMS FOR THE MD11

by John Leonardo, Quest Inc.

[This article is not a review. It is written by a representative of the corporation who sells the product or service, which is the subject of this article. The only intent is to supply the reader with useful information. Editor.]

Quest Announces the New Quest Accountant (TM)

As part of a continuing cooperative marketing effort between Quest, Inc. and Morrow Designs. Quest has announced the availability of their new Accountant (TM) series of accounting modules. The MD 11 version of these four new products - Accounts Receivable, Accounts Payable, General Ledger, and Inventory - Control may be purchased only through authorized Morrow dealers and will retail for $295.00 each. Dealers may order the Accountant directly from Morrow starting in August.

This new product is upwardly compatible to the Quest Bookkeeper, meaning that anyone presently running the Bookkeeper on an MD3 may upgrade to an MD11 and simply transfer all data files. The Accountant can completely supercede the Bookkeeper or it may overlay any individual module, allowing a Bookkeeper user to upgrade a module at a time.

For example, it is possible to purchase only the Accountant Accounts Payable to upgrade the Bookkeeper Cash Disbursements program. In so doing, the new Accounts Payable will integrate completely with the original Bookkeeper Accounts Receivable and General Ledger. Installation is simple and no data re-entry is required.

A conversion to the Accountant Accounts Receivable module is also possible, enabling a Bookeeper user to add invoicing and customer statements. The new Inventory Control module is driven by the invoicing program in Accounts Receivable, and Quest recommends that Bookkeeper users desiring Inventory Control purchase both modules together.

The Accountant General Ledger which contains provisions for budgets and full budget variance reporting, may also be implemented as an upgrade to the Bookkeeper.

Because the increased functions of any individual Accountant module will exceed the disk storage capacity of an MD3 it will be necessary to move up to a hard disk even when implementing only one module at a time.

According to Quest, MD11 owners who are already running the Quest Bookkeeper will find this upgrade conversion very simple and those who have not already installed on the Bookkeeper may choose to install directly on the Accountant.

The Quest product line is a series of upwardly compatible products that start with an extremely user - friendly entry level system and provide a path for increasing sophistication. This is a unique strategy that is ideally suited to the consumer universe that Morrow Design is presently appealing to.

Of the over 3000 Bookkeeper systems registered with Quest, a recent consumer satisfaction study indicates that over half (53.1%) are very small businesses doing less than $250,000 in annual sales and almost two thirds (62.9%) have less than 5 employees. An indication that these are aggressive, independent individuals can be seen from their expectations: 78% expect to grow over the next 3 years and a third plan to buy more accounting software within the next year. Among these users, incidentally, 63% were "satisfied" or "very satisfied" with the current Bookkeeper product while 28% complained that the Bookkeeper has limited capabilities in relation to their needs.

This announcement of four new modules of the Quest Accountant directly addresses the need by many of these small businesses for broader function and increasing sophistication. Quest is presently developing several additional modules including Payroll and Job Costing with expected announcement dates between now and mid - 1985.

Following is a brief summary provided by Quest of the features of each new Accountant module.

ACCOUNTANT (TM) General Ledger

The Accountant General Ledger System provides complete accounting procedures and meaningful reporting on the status of a company's resources. The system records business transactions with sufficient speed, detail, and accuracy to provide financial and economic information that not only meets the multiplying demands of government but also guides resources and makes effective use of them for the production of profit. This versatile system can easily serve companies desiring a simply structured chart of accounts and it can equally serve companies requiring extremely

sophisticated reporting.

The tailoring of the system to meet the specific needs of a company is a simple procedure made possible by a very flexible account numbering system and a wide selection of financial report formats for the production of comparative Income Statements and Balance Sheets.

The following features show some of the flexibility and range of the Accountant General Ledger System:

* User-defined, flexible account numbering system or pre-defined Chart of Accounts.
* Budgetary comparisons by individual period with variance reporting. (Requires 132 print columns).
* Departmental (or Profit Center) reporting designated with individual and automatic consolidation reporting.
* Sub-accounts with automatic summarization on Financial Reports.
* History storage for "same period last year" reporting and four month trend analysis.
* Overlap capabilities between current and previous periods (process into a period before closing the previous periods).
* 10 different formats for Balance Sheet and Income Statements.
* Automatic transfer of Income Statement Current Earnings to the Balance Sheet.
* Proof listing of transactions organized by source journal.
* Both summary and detailed trial balance.
* Detailed Trial Balance available by department.
* Easy and flexible period-end and year-end processing.

QUEST ACCOUNTANT (TM) Accounts Payable

The Accountant Accounts Payable System does more than just pay your bills. It is a system for maximizing profits by controlling cash flow. It will assist in the proper planning of anticipated cash needs by providing the money management tools necessary to reduce borrowing costs, ensure maximum available discounts, and provide purchasing history to increase terms negotiations and help develop efficient buying procedures. Complete and varied reporting of future cash requirements and of aged invoices assures complete control over all expenditures.

The following features show some of the flexibility and range of the Accountant Accounts Payable System:

* Automatic discount calculation.
* Future cash requirements cash flow analysis.
* Aging of past due invoices.
* Automatic release for payment by due date and discount date.
* Automatic checkwriting with consolidation and detail stub preparation by vendor.
* Automatic check register by any range of dates.
* Automatic check void procedures.
* A manual check register for paying bills outside of the system.
* Bills paid by manual check may already exist in the system or may be added new with complete General Ledger distribution.
* Invoice "HOLD" facilities.
* Automatic partial payment processing.
* Daily journals give totals for posting to your general ledger. Optionally, the Quest General Ledger System may automatically be updated.

QUEST ACCOUNTANT (TM) Accounts Receivable

The Accountant Accounts Receivable System will do accurate bookkeeping for your customer accounts. It is an open-item type of accounts receivable, making it easy to track the status of individual invoices for customer inquiries. An option allows "Balance Forward" accounts to be mixed with Open Item Accounts. The system can provide up-to-the-minute information on past due accounts and those that have exceeded established credit limits. Information about potential problems is reported so that action can be taken quickly. Daily sales breakdowns identify which areas are generating the revenue.

The following features show some of the flexibility and range of the Accountant Accounts Receivable System:

* Automatic, on-line updating of accounts receivable and sales information while entering A/R postings, with complete validation, error notification and error correction.

* Daily sales journals, produced as the A/R postings are being entered, give totals for posting to your general ledger. Optionally, the Quest General Ledger System may be automatically updated.

* Detailed aging of outstanding invoice balances, with exception reporting by age.

* Flexible cash receipts posting including partial payment of invoices and detail journal print.

* Handling of cash received from non-trade sources.

* Statement printing. Optionally, only selected customers may receive statements.

* Ability to prepare system produced invoices as well as automatic, on-line updating of accounts receivable and sales information, and Daily Sales Journal Posting.

QUEST ACCOUNTANT (TM) Inventory

The Accountant Inventory System is a comprehensive, easy to use system for tracking sales, receipts, and status for each inventory item. When used with the Accountant Accounts Receivable System, the Inventory System makes invoicing and inventory control a one-step operation. The Accountant Inventory System provides the Invoicing with up-to-the minute item descriptions, pricing, and costing information. The Accountant Accounts Receivable System contributes accurate on-line sales, on-hand and status information to the Inventory System, or you may run the system by itself.

The reporting facilities of the Accountant Inventory System include Stock Status, Stock Reorder and Sales Analysis reports.

The following features show some of the flexibility and range of the Accountant Inventory System:

* Easy-to-use entry of inventory orders, receipts and adjustments.

* Automatic recalculation of average unit cost as inventory receipts are entered.

* Automatic receipts and adjustments journal is printed for a complete audit trail.

* Screen inquiry on all information for any inventoried item.

* Reporting of stock that needs to be reordered.

* Reporting of inventory item values by cost.

* Sales history reporting with gross profit calculation for each inventory item.

If used in conjunction with the Accounts Receivable System, additional features include:

* Automatic, on-line updating of inventory sales and stock status while the invoice information is entered.

* During invoicing, information on stocked line items is supplied by the Inventory System.

THE MD5: MD11'S LITTLE SISTER

by Sypko Andreae

News from the Morrow factory: Around mid August you will be able to purchase the MD5-E during a special promotion by participating dealers. It is a machine identical to the MD11, but with a smaller (5MB) hard-disk. The price is $1995; great price for a hard-disk machine. You get less software than with the MD11: CP/M 3.0, NEWWORD, CORRECT-IT, BACKFIELD and the Co-Pilot front-end menu. Nothing should keep you from adding all the standard MD11 software to it if need be.

CP/M 3.0 is a joy to use compared to its 2.2 version. Virtually all software that runs under 2.2 will also run under 3.0. Notable exceptions are some specialized public domain utilities, but new CP/M 3.0-versions of these programs are fast becoming available.

To get more information on price changes and new variations on the Micro Decision theme get Morrow's new booklet "Prices and Specifications", which lists such attractive deals as the MD1-E for $999 and the MD3-E for $1499; that's without printers. Not bad, eh? To get the booklet ask your dealer or call Morrow at 800-521-3493.

EXPERT HELP FOR YOUR MICRO JUST A PHONE CALL AWAY

by Michael Dortsh, Micro Support

[This article is not a review. It is written by a representative of the corporation who sells the product or service, which is the subject of this article. The only intent is to supply the reader with useful information. Editor.]

Answers, Answers, Who's Got the Answers?

These days, when you buy a major appliance, there is often a sticker attached to it which shows a telephone number you can call if you have questions or problems. Indeed, even some cake mixes and toilet tissue come with such numbers now.

However, suppose you have a question about some software you've purchased? Who do you call for help and answers?

Each of us has probably had some incredibly forgettable experiences while trying to answer these questions. Calling manufacturers often produces no help at all, unless the caller is a dealer or distributor. Even when a manufacturer will take calls from end-users, helpful answers are not always forthcoming. Indeed, after calling three separate areas within one of the Big Three microcomputer makers, one end-user was given a "secret" number for end-users. This number connected the user with -- a recording, which said that if the caller could describe his/her problem briefly and leave a name and number, a support technician might call back within 24 to 48 hours!

The standard manufacturer's response to end-user calls, of course, is, "Call your dealer." However, most dealers' abilities to offer full support are limited or non-existent. This deficiency is often amusing, if viewed from a distance. Recently, a Morrow user was told by a dealer that the Hayes Smartmodem was incompatible with the MD2! Another user reported being assured by a dealer that Apples and IBM PC's were "plug-compatible."

Computer product manufacturers are in business to design and manufacture products, and to get those products into the marketplace. Offering end-user support can get very expensive, especially for top-selling products. The expense is so great that smaller and newer software companies cannot even consider providing end-user support on their own. Even those manufacturers who make this commitment are constrained, since they can support only the products they make, and most users do not buy all their software from one manufacturer.

Dealers, in turn, are in business to sell products, and to provide more than cursory support at no charge is a drain on their resources. Dealers are also constrained to support only the products they sell, or those for which they have received adequate training and support from the manufacturers. Providing hardware service and support depletes many dealers' resources even further.

So, who do you call? Who provides fast, available, unbiased and affordable software support?

The lack of a clear answer to these questions was the need from which Micro Support was formed more than a year ago. Susan Hamelin, Micro Support's president and founder, saw this need coupled with an interesting opportunity, represented by the wealth of computer talent available in the San Francisco Bay Area. Micro Support was founded to form a bridge between the people that had the answers and the people who needed them -- a bridge that bypassed the manifold problems of dealers and manufacturers.

Susan and her team began interviewing people with a wide variety of computer skills, and creating a database of skills and people. More than 300 professional programmers, trainers, consultants and "applications wizards" have been interviewed, and about 200 of these have been screened and registered with Micro Support's "Expert Network." This network allows Micro Support to offer support for almost any available software, on almost any microcomputer.

When a client calls with a problem, the database quickly provides a list of available experts, their skills and skill levels, and their addresses and telephone numbers. Micro Support links the client with the expert, helps them decide on a relationship, and makes sure the client is satisfied with the expert's work. Simple problems are solved via Micro Support's hotline, with on-site support available throughout Northern California.

Micro Support's services range from help with system installations and upgrades to needs analyses, custom software, and training. Micro Support accepts Visa or Mastercard for its telephone support, and requires no prepayment. Telephone support is just $1.00 per minute, with a $15 minimum per call. (Most telephone questions are answered within the first fifteen minutes, and there is no charge if Micro Support cannot solve the problem.) On-site support typically costs

about $60 per hour.

Micro Support has increased its activities to include support agreements with major computer product suppliers. Micro Support is an "official" supplier of end-user support for Power! and other products from Computing! of San Francisco. Micro Support has also entered into user support agreements with North Star Computers, Inc.; Bruce and James Program Publishers, Inc., manufacturers of the Wordvision Writing Tool; and Pulsar Computers, Inc. These agreements make Micro Support's serv- ices more accessible to users, while freeing the product providers to concentrate on providing better products. Users also have more confidence in products when they know their questions will be answered.

So, the next time you have a question about your Morrow software, before swamping Morrow's tech support folks or testing your dealer's computer literacy, give Micro Support a call. The number is (415) 331-5034. Micro Support will even send you a sticker with the number on it!

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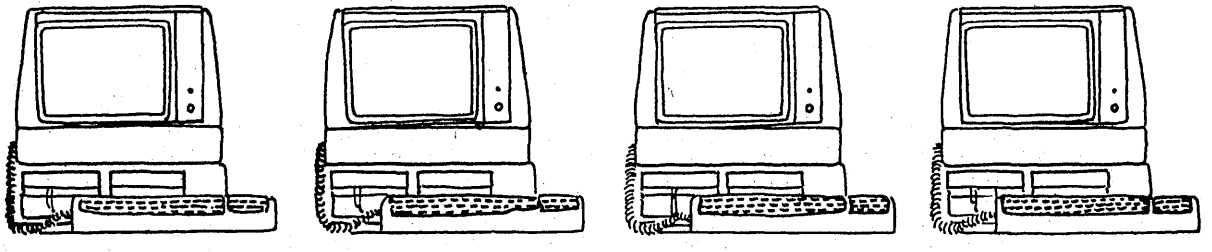

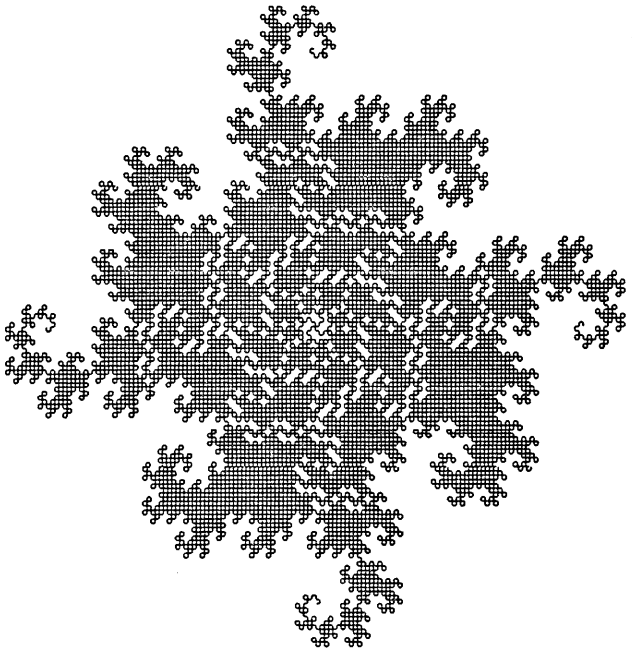

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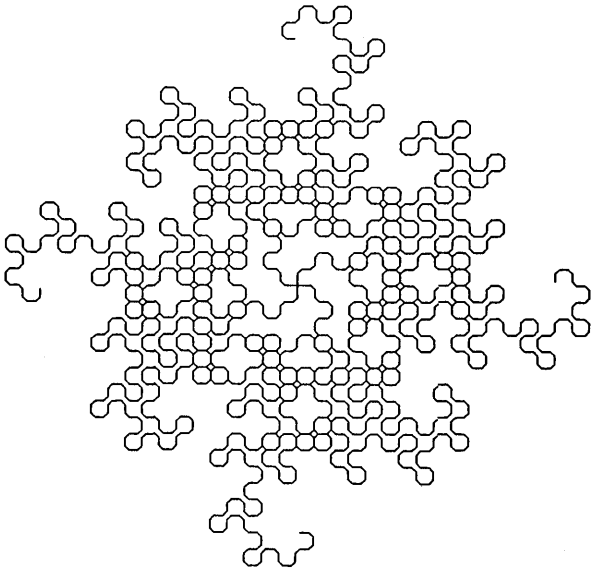

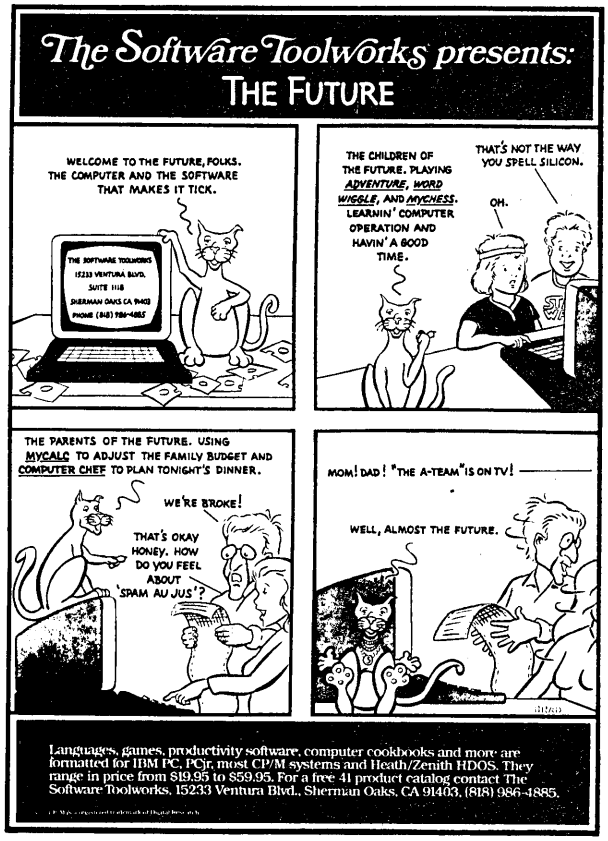
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